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Construction characteristics of Huizhou traditional wooden ancestral hall architecture in the context of beautiful rural areas: Xidi Hu Clan Ancestral Hall as a case study

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Abstract: The traditional ancestral halls of Huizhou represent a significant architectural heritage in southern Anhui, reflecting the sophisticated construction techniques and structural knowledge of the Ming and Qing dynasties. In the context of ongoing rural revitalization, systematic investigation of the construction features of key architectural heritage in traditional villages serves both cultural conservation and technical reference purposes. This study focuses on the Hu Clan Ancestral Hall in Xidi Village, a UNESCO World Heritage site. Through on-site investigation, in-situ measurement, graphical comparison, and structural analysis, the research systematically examines the construction characteristics of this Huizhou ancestral hall timber framework — covering overall layout, timber framing systems, component typologies, mortise-and-tenon joinery, construction logic, and regional attributes. The findings reveal that the Xidi Hu Clan Ancestral Hall adopts a hybrid timber-framing system integrating the tailiang (post-and-beam) and chuandou (column-and-tie) structural traditions. This integrated system, which serves as the main load-bearing structure, features standardized component profiles, precise joint assemblies, and a clearly defined load-transfer hierarchy. It effectively unifies structural rationality with regional artistic expression, exemplifying the quintessential Huizhou timber construction tradition[1]. This research provides primary data and methodological references for studies on Huizhou ancestral hall architecture, traditional craft preservation, and the safeguarding of rural architectural landscapes.

Keywords: beautiful countryside; Huizhou ancestral hall; wooden frame system; construction characteristics; Xidi Hu Clan Ancestral Hall; tailiang (post-and-beam); chuandou (through-tie column); mortise-and-tenon joint; traditional timber architecture; regional construction techniques

1.Introduction

Conventional villages represent a significant storehouse of Chinese cultural inheritance and act as vital vessels for the continuation and progress of Chinese civilization. As the spatial and emblematic nuclei of clan societies, ancestral shrines encapsulate collective remembrance, ceremonial hierarchy, social structuring, and traditional architectural know-how. In this regard, the Huizhou area is especially prominent due to its distinctive geographical position, abundant cultural legacies, and highly advanced

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timber-building skills. Throughout the Ming and Qing eras, Huizhou Skilled artisans developed a well-developed architectural framework. This framework was marked by advanced timber-framing techniques, meticulous building approaches, and a distinct regional character. As a result, Huizhou ancestral halls emerged as prime examples of traditional timber architecture in southern China [2].

Xidi Village, recognized as a UNESCO World Heritage Site, safeguards an outstanding assemblage of ancestral halls and residential structures that originated during the Ming and Qing dynasties. Among them, the Hu Clan Ancestral Hall, depicted in Figure 1, stands out as one of the most notable extant specimens. This is attributed to its substantial scale, intact spatial layout, and the significant preservation of its original timber structural elements. Consequently, this building serves as a perfect instance for exploring the architectural traits and construction methods of traditional Huizhou ancestral halls [3].

Previous research on Huizhou architecture has mainly concentrated on historical development, spatial form, decorative arts, and cultural connotations. Nevertheless, relatively little consideration has been given to the tectonic rationale, structural arrangement, and construction principles of the timber frameworks in ancestral halls. Specifically, the combination of the tailiang (post-and-beam) ①and chuandou (column-and-tie) structural systems②, together with their influence on spatial configuration, load-transfer mechanisms, and structural performance, has not yet been systematically examined.

In the context of current rural rejuvenation endeavors and the growing focus on the safeguarding of historical buildings, it is crucial to have a comprehensive grasp of traditional timber construction techniques for the scientific preservation and sustainable dissemination of architectural heritage. As a result, this research uses the Hu Clan Ancestral Hall in Xidi as an example and examines its timber structural system from the viewpoints of spatial arrangement, structural order, framing layout, and joint assembly. By conducting an integrated examination that spans from the overall architectural framework to individual structural elements and mortise-and-tenon joints, the study intends to uncover the tectonic features, construction rationale, and regional suitability of Huizhou ancestral hall architecture.

The findings contribute not only to a deeper understanding of traditional Chinese timber-building technology but also provide a theoretical basis and technical reference for the conservation, restoration, and sustainable management of historic timber structures in Huizhou and other regions of China.

① A primary form of traditional Chinese timber framing, characterized by posts supporting beams, upon which short posts are stacked to carry purlins. This system transfers roof loads through layered beam-post assemblies and enables large interior spans, typically used in palaces and temples.

② A timber system with continuous posts standing on the ground, horizontally tied together by through-tenon ties (chuan fang), with purlins placed directly on post tops. It offers high integrality and lateral stiffness, but features denser post spacing and less open space, commonly applied in southern vernacular dwellings and small-scale timber buildings.



Figure 1. Overall appearance of Xidi Hu Clan Ancestral Hall.

2. Materials and methods

2.1. Research subject

The Xidi Hu Clan Ancestral Hall, otherwise referred to as the Hall of Reverence, was constructed during the Ming Dynasty. It stands as the most expansive and highest-ranked edifice for clan veneration and communal activities in Xidi Village. Moreover, it serves as a quintessential illustration of Huizhou ancestral hall architecture [4,5]. The entire building is oriented north-south and is symmetrically laid out along the central axis. As shown in Figure 2, it takes the form of a courtyard with three entrances and three openings. Sequentially, it consists of a gateway building, a common hall, and a sleeping hall. The spatial hierarchy is well-defined, and the ritual order is clearly established [6,7].

The primary part of the ancestral hall is constructed with a timber framework serving as the central load-bearing mechanism. Meanwhile, the outer walls are encased using bricks and stones. This results in an overall structure that is steadfast and a form that exudes solemnity [8]. Following several centuries of utilization and upkeep, the primary structure of the building's wooden framework has been excellently conserved. Vital elements like crossbeams, columns, girders, purlines, rafters, camel piers, and fork braces remain intact [9,10]. The mortise-tenon connections are distinct, and the characteristic methods and construction features of Huizhou wooden buildings have been comprehensively retained. This holds significant value for research and display.

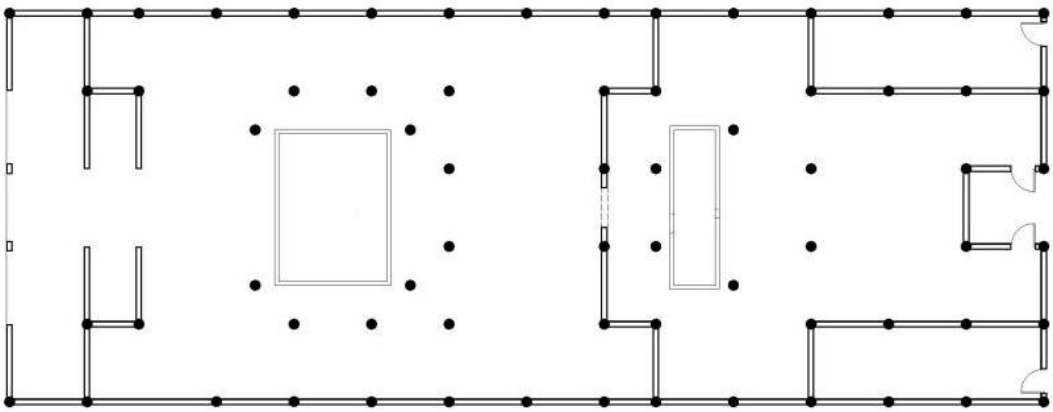


Figure2. Schematic diagram of the layout of the Hu Clan Ancestral Hall.

2.2. Research methods

This study employs a multi-method approach combining on-site investigations, in-situ measurements, graphical comparisons, and structural evaluations. Field surveys were conducted to document the current condition and spatial configuration of the Hu Clan Ancestral Hall. Detailed measurements of key structural components — including beams, columns, purlins, rafters, camel humps, and mortise-and-tenon joints—were recorded using laser distance meters, measuring tapes, and photographic documentation. Graphical comparison methods were applied to analyze the typological characteristics of the timber frame system, while structural evaluation focused on the load-transfer mechanisms and force-bearing logic of the hybrid tailiang-chuandou system. The collected data were synthesized to develop a comprehensive understanding of the construction characteristics and regional building traditions of Huizhou ancestral hall architecture.

3. Results and discussion

3.1. Overall layout and space creation

The timber-framed structure system of the Hu Clan Ancestral Hall adheres rigorously to the concept of central axis symmetry. It features a well-defined spatial hierarchy and a suitable scale. The front area is broad and imposing. The central sacrificial area is lofty and roomy, while the rear dormitory hall is relatively secluded. This arrangement creates a conventional spatial sequence of a front hall and a rear dormitory, progressing from the exterior to the interior [11]. The altitude of the wooden framework is harmonized with the proportion of the opening. This alignment not only satisfies the spatial prerequisites for the sacrificial events but also aligns with the practical functions of structural load-bearing, as well as ventilation and illumination [12,13].

The general layout showcases the construction philosophy of Huizhou ancestral halls, which emphasizes ceremony, practicality, and artistry. There is a high level of unity between the wooden framework and the spatial configuration, which is a classic manifestation of the traditional architecture's combination of form and structure.

3.2. Type of wooden frame: hybrid of beam lifting and bucket piercing

The main framework of the Hu Clan Ancestral Hall utilizes a combined timber-framing approach that combines the tailiang (post-and-beam) and chuandou (column-and-tie) building practices. This particular structural arrangement is well-known as one of the most typical features of traditional Huizhou ancestral buildings.

The main hall and other spaces of ceremonial importance are built using the tailiang construction method. In this approach, large cross-beams are employed to support the roof structure and transfer the loads to a small number of columns. This setup reduces internal structural hindrances, enables the formation of large interior areas, and strengthens the spatial order, grandeur, and ritual importance of the ancestral hall.

From a structural-mechanical perspective, the hybrid adoption of the tailiang and chuandou systems is not merely a spatial strategy but also a tectonically rational response to material properties and loading conditions. The tailiang system, characterized by large-span beams and fewer columns, relies on bending-resistant beam members to transfer roof loads. This configuration, while spatially efficient, demands substantial timber sections and imposes higher bending moments on beam members. In contrast, the chuandou system employs closely spaced columns with multiple horizontal ties (chuan fang), transferring loads primarily through axial compression in columns and tension in tie members. This arrangement offers higher redundancy and lateral stiffness but sacrifices interior spatial continuity.

By combining the two systems—deploying tailiang in the main hall for ceremonial spatial requirements and chuandou in the subsidiary bays for structural reinforcement—the Huizhou builders achieved an optimal balance between spatial hierarchy and structural integrity. This dual-system approach also reflects a sophisticated understanding of timber utilization: large-dimension timber was reserved for the critical tailiang frames, while smaller-dimension members were effectively employed in the chuandou portions, minimizing material waste. In this sense, the hybrid framing system embodies not only architectural ingenuity but also economic rationality—a hallmark of the pragmatic Huizhou construction tradition.

Conversely, the lateral galleries, secondary wings, and outer areas utilize the chuandou framework. This system is distinguished by a tightly-packed column arrangement and a straightforward load-transfer method. In this method, purlins are upheld by closely-placed posts that are linked together via horizontal connecting elements. This setup boosts the structural soundness, lateral steadiness, and long-term resilience. As a result, it is especially well-suited for the outer building parts that are exposed to continuous service loads and environmental pressures.

By intentionally combining these two timber structural heritages, an efficient equilibrium is established between spatial expansiveness and structural functionality. Even more significantly, this approach showcases the refined tectonic expertise, cutting-edge construction methods, and adaptable design approaches cultivated by Huizhou master artisans. It mirrors the remarkable level of technical proficiency reached during the development of traditional Chinese timber-framed architecture.

3.3. Overall force characteristics

Structurally, the building is organized around a timber-framed load-bearing system in which vertical columns serve as the primary compressive members, while beams, tie elements, purlins, and rafters collectively facilitate the transferand redistribution of roof loads. Gravitational forces are transmitted through a well-defined structural hierarchy—from the roofing system to the purlins, principal beams, columns, and ultimately the foundation—forming a coherent and efficient load path.

This tectonically integrated framework not only guarantees vertical load-bearing stability but also provides substantial lateral rigidity through the synergistic interaction of its constituent members. The resulting structural system exhibits a high degree of resilience against deformation, differential settlement, and long-term material creep, contributing significantly to the building's longevity and serviceability.

From an engineering and architectural perspective, the clarity of its force-transmission mechanism and the sustained structural performance observed over centuries of use exemplify the scientific rationality, tectonic intelligence, and technological sophistication of traditional Chinese timber architecture.

3.4. Typical characteristics of wooden component construction

3.4.1. Beam and beam components

Liang Fang is the core load-bearing component of the wooden structure of ancestral halls, with Donggua Liang (Moon Beam) being the most representative. The cross-section of the beam is thick and robust, with slight upward arching at both ends. The shape is robust and the bending resistance is good, as shown in Figure 3, which not only meets the load-bearing requirements but also presents a soft visual effect. The concise treatment of the beam head, highlighting the structural function, is a reflection of the characteristics of Huizhou wooden structure's “practicality first, moderate decoration” [14,15].



Figure 3. Tailiang (post-and-beam) timber frame.

3.4.2. Column components

The columns are mainly circular straight columns, with solid material, uniform thickness, and moderate upper and lower contraction. The column body directly supports the beam and ensures stable transmission of vertical loads. The column foundation is mainly made of stone, which plays a role in moisture-proof, anti-corrosion, and stabilizing the column roots. It is an important structural measure for Huizhou wooden structures to adapt to humid climates.

3.4.3. Tuodun and Shu Zhu

The camel hump[③]is set on the beam to support the upper components, with a simple and stable appearance, as shown in Figure 4,which not only disperses stress, improves stress, but also enriches the structure hierarchy. Shu pillars[④]are used inside the roof truss to stabilize the purlins and enhance overall integrity. They have a simple structure and clear stress distribution, reflecting the characteristics of Huizhou wooden structures such as “reasonable construction and concise methods”.



Figure 4. Tuodun and Shu Zhu structures.

3.4.4. Purlins, rafters, and roof components

The rafters are arranged horizontally, directly supporting the weight of the rafters and the roof, with even spacing and regular arrangement. The rafters are densely arranged to form a complete roof support system, ensuring the flatness and uniform stress distribution of the roof. The coordination of component dimensions and orderly overlapping demonstrate mature construction processes and size control capabilities.

3.4.5. Fork hand and auxiliary components

Forks are set between the roof trusses to stabilize diagonal components and enhance the stiffness of the roof. Although the components are small, as illustrated in Figure 5, they play a crucial role in improving the overall wind and deformation resistance of the structure. They are typical auxiliary reinforcement components in the Huizhou timber system.

③ A short, cushion-like timber block placed on top of a beam or bracket set, shaped like a camel's hump. It serves as an intermediate support to elevate and transfer loads from upper beams or purlins, commonly used in traditional Chinese timber framing.
④ A short vertical timber column standing on a beam, used to support an upper beam or purlin. Unlike ordinary columns that reach the ground, Shu Zhu is entirely situated above the beam level and contributes to the layered load transfer system in post-and-beam (tailiang) construction.



Figure 5. Internal structure of fork and roof truss

3.5. Characteristics of mortise-and-tenon connection construction

The wooden components of the Hu Clan Ancestral Hall are all connected by mortise and tenon joints, without the use of metal nails, which is the core manifestation of traditional wooden construction techniques in Figure 6.

The beams and columns are connected by large tenons, which are firm, stable, and have strong integrity; The combination of half tenons and mortises between the beams and columns is convenient to install and reliable in terms of stress; The internal structure of the beam frame adopts forms such as dovetail tenons and clamp tenons to prevent tenoning and enhance node stiffness; The decorative components and structural components are positioned with small tenons, which is simple and efficient.

The mortise-tenon joints have a certain degree of flexibility and deformation ability, which can adapt to the expansion and contraction of wood caused by temperature and humidity changes, while improving the overall toughness of the structure, making the building stable in long-term use, fully reflecting the construction wisdom of Huizhou timber structure of “using softness to overcome rigidity, durability and practicality”.



Figure 6. Mortise-tenon joint

3.6. Summary of regional construction characteristics of wooden structures

The architectural characteristics of the Hu Clan Ancestral Hall can be summarized in five principal aspects.

First, the architectural form is highly standardized and governed by a clearly defined ritual hierarchy. Adhering strictly to a symmetrical axial layout and a traditional three-courtyard configuration, the spatial organization and structural arrangement are closely integrated with the clan-based ritual system. This reflects the fundamental characteristics of Huizhou architecture, in which spatial order, social hierarchy, and Confucian ethical principles are expressed through architectural form.

Second, the structural system demonstrates both rationality and adaptability. The integration of the tailiang (post-and-beam) and chuandou (column-and-tie) timber-framing traditions achieves an effective balance between spatial openness and structural stability. The resulting framework exhibits a clear load-transfer mechanism, efficient material utilization, and strong structural performance, highlighting the engineering sophistication of traditional Huizhou construction techniques.

Third, the architectural components are characterized by formal restraint and precise craftsmanship. Structural members maintain consistent proportions and standardized forms, emphasizing functional efficiency and tectonic clarity rather than excessive ornamentation. This approach embodies the distinctive regional craftsmanship tradition of Huizhou, which values precision, practicality, and technical refinement.

Fourth, the mortise-and-tenon system constitutes the core of the structural framework and reflects a high level of technological maturity. As the primary method of joining timber elements, mortise-and-tenon connections ensure reliable load transmission, structural integrity, and constructional flexibility. The widespread application of this sophisticated joinery system demonstrates the advanced engineering knowledge embedded within traditional Chinese timber architecture.

Fifth, the building exhibits strong environmental adaptability through construction methods tailored to local conditions. The timber structural system responds effectively to the humid and rainy climatic conditions of southern Anhui through elevated stone column bases, well-ventilated structural configurations, and durable timber components. These design strategies enhance moisture resistance and long-term durability while demonstrating the close relationship between architectural form, construction technology, and the regional environment.

Collectively, these characteristics illustrate the structural rationality, tectonic intelligence, and cultural significance of Huizhou ancestral architecture, while also revealing the sophisticated integration of ritual requirements, environmental adaptation, and construction technology within the traditional timber-building tradition of southeastern China.

4. Conclusion

Taking the Hu Clan Ancestral Hall in Xidi as a representative case study, this research systematically investigated the characteristics of the timber structural system of traditional Huizhou ancestral halls and reached the following conclusions.

First, the building exhibits a highly ordered timber-framing system organized around a symmetrical axial layout and a hybrid structural configuration integrating the tailiang (post-and-beam) and chuandou (column-and-tie) traditions. This integrated framework establishes a strong correspondence between architectural form, structural logic, and ritual hierarchy, reflecting the fundamental spatial principles of Huizhou ancestral architecture.

Second, the structural members—including columns, beams, guadun (melon-shaped struts), short posts (shu-zhu), purlins, and rafters—demonstrate a high degree of standardization in form, proportion, and construction. The clear load-transfer mechanism, coordinated dimensional relationships, and efficient structural organization indicate the maturity and technical sophistication of traditional Huizhou timber-building practices.

Third, the mortise-and-tenon joint system constitutes the technological core of the timber framework. Through scientifically designed and mechanically effective connections, the structure achieves reliable load transmission, structural integrity, and long-term durability. The extensive use of mortise-and-tenon joinery reflects the advanced tectonic knowledge and engineering wisdom embedded within traditional Chinese timber architecture.

Fourth, the timber structural system exhibits pronounced regional characteristics and demonstrates a strong capacity for environmental adaptation. From spatial organization and structural configuration to construction techniques and material application, the building embodies the principle of adapting construction to local climatic and geographical conditions while simultaneously satisfying ritual, functional, and social requirements.

More broadly, the findings reveal the structural rationality, tectonic intelligence, and regional adaptability of Huizhou ancestral hall architecture. The hybrid application of the tailiang and chuandou systems, together with the sophisticated use of mortise-and-tenon joinery, illustrates the high level of technological development achieved within traditional timber-building culture in southeastern China.

In the context of rural revitalization, heritage conservation, and the construction of beautiful villages, a systematic understanding of the construction principles and tectonic characteristics of Huizhou ancestral halls is of considerable significance. The results of this study not only contribute to the theoretical understanding of traditional Chinese timber architecture but also provide valuable technical references for the conservation, restoration, adaptive reuse, and sustainable management of historic timber structures and traditional villages.

Limitation of this work: this research is based on a single representative case study of Xidi Hu Clan Ancestral Hall. Further comparative studies across multiple Huizhou ancestral hall samples should be carried out to generalize the regional construction characteristics.

Declaration of generative AI and AI-assisted technologies

The authors did not use generative AI or AI-assisted technologies in the writing of this manuscript.

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Authors' contributions

Conceptualization, Bo Zhou and Yuguo Mei; methodology, Bo Zhou; software, Bo Zhou; validation, Bo Zhou, Yuguo Mei, Yujie Feng and Liangze Deng; formal analysis, Bo Zhou; investigation, Bo Zhou; resources, Yuguo Mei; data curation, Bo Zhou; writing—original draft preparation, Bo Zhou; writing—review and editing, Yuguo Mei; visualization, Bo Zhou; supervision, Yuguo Mei; project administration, Yuguo Mei; funding acquisition, Yuguo Mei. All authors have read and agreed to the published Version of the manuscript.

Conflicts of interest

The authors declare that there are no potential conflicts of interest regarding this manuscript, including but not limited to employment, consulting fees, research contracts, stock ownership, patent licenses, honoraria, advisory affiliations and other financial or non-financial competing interests.

Ethical statement

This study only carried out field investigation, measurement and documentation of heritage buildings. No human or animal experiments were involved, and ethical committee approval is not required for this research.

References

[1] Liu T. *Research on the Construction Techniques and Protection of Huizhou Ancient Architecture* (In Chinese). Beijing: China Architecture & Building Press, 2020.

[2] Tang G. Symbolic expression and symbol system construction of Huizhou culture: a case study of ancient villages and ancient architecture culture in Huizhou (In Chinese). *Jianghuai Tribune* 2019, (4):180–186.

[3] Wang Q J. *Research on Traditional Chinese Wooden Architecture System* (In Chinese). Beijing: China Architecture & Building Press, 2018.

[4] Anhui Provincial Cultural Relics Bureau. *Atlas of Surveying and Mapping of Residential Buildings in Southern Anhui (Huizhou Volume)* (In Chinese). Hefei: Anhui Science and Technology Press, 2021.

[5] Chen X, Xie W. Renewal of spatial function and activation utilization of ancestral halls in Huizhou traditional villages (In Chinese). *J. Orig. Ecol. Natl. Cult.* 2019, 11(4):92–97.

[6] Wang L. Brief discussion on architectural characteristics and artistic value of Huizhou ancient villages: A case study of Xidi Ancient Village in Anhui (In Chinese). *Agric. Archaeol.* 2014, (3):323–326.

[7] Wang M, Zhang L, Qiao W, Gao T, Zhai N. Precision finishing technology for mortise and tenon joints based on device collaboration and path coupling using robotic arms (In Chinese). *Chin. J. Civ. Environ. Eng.* 2025, 47(5):118–124.

[8] Jiang J, Zhuge J, Jia T. The "Jia" in ancient Chinese timber buildings: terminology and framework

evolution (In Chinese). *Archit. J.* 2024, (6):96–101.

[9] Wen Z, Yan X, Ren C. Digital translation of traditional tectonics: a study on the design and construction of a parametric mortise-tenon timber pavilion (In Chinese). *South Archit.* 2024, (5):50–57.

[10] Li W. Strategies for spatial inheritance and innovation of rural timber architecture (In Chinese). *Shanxi Archit.* 2026, 52(6):37–40.

[11] Wu H, Kong J, Huang Y, Jiang F, Wang C. Protection treatment of wooden structural components of Huizhou ancient buildings. J. *Anhui Agric. Univ.* 2016, 43(3):383–386.

[12] Bai Y, Sun Y. Terminology and the study of Chinese architectural history: a historical examination of “chuan-dou” and “tailiang” (In Chinese). *Archit. J.* 2019, (12):68–72.

[13] Wang W, Han Z. Research on the inheritance and innovation of traditional Huizhou residential construction techniques from the perspective of intangible cultural heritage (In Chinese). *Hous. Sci. Technol.* 2021, 41(7):47–72.

[14] Wang D C, Miao J J. Research on the characteristics of architectural color order in Hongcun, Huizhou: A case study of Yuezhao Area (In Chinese). *South Archit.*, 2023, (6): 76–85.

[15] Shan D. *Anhui Dwellings* (In Chinese). Beijing: China Architecture & Building Press, 2009.

[16] Zhu Y C. *Huizhou Architecture* (In Chinese). Hefei: Anhui People’s Publishing House, 2005.

[17] Chen H S, Wang X P, Liu Y, et al. Research on the relationship between urbanization and residents' subjective well-being: Inspection and enlightenment for urban and rural planning (In Chinese). *City Plan. Rev.*, 2020, 44(7):18–27+90.

[18] Zhao H, Dong C, Xue J, Sui Y, Zhang H. Research progress on seismic performance of mortise-tenon joints in traditional Chinese timber structures (In Chinese). *China Civ. Eng. J.* 2013, 46(9):1–9.

[19] Wang S Y, Chen X G, Lin H. Research on identification system and characteristics of landscape genes of Huizhou traditional villages: A case study of Hongcun, Anhui (In Chinese). *Urban Dev. Stud.*, 2020, 27(5):13–17+36.

[20] Huang C, Chen J. Research on spatial organization structure of ancestral halls in Pingshan Village, Yixian County: a case study of Guangyu Hall (In Chinese). *Zhuangshi* 2016, (2):109–111.

[21] Chen G. Decorative characteristics of Huizhou wood carving art in the late Qing Dynasty: a case study of Chengzhi Hall in Hongcun (In Chinese). *Zhuangshi* 2013, (12):141–142.

[22] Wang H. Spatial planning of Huizhou traditional villages: Agglomeration phenomenon of public buildings (In Chinese). *Archit. J.*, 2008, (4):81–84.