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## 玉树7.1级地震学校建筑震害分析(PDF)

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关键词: [玉树地震](#); [学校建筑](#); [震害分析](#); [震害指数](#); [破坏机理](#)

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摘要: 2010年4月14日青海省玉树县发生了 $M_s$ 7.1级地震,造成了大量学校建筑的严重破坏甚至倒塌。通过对玉树地震学校建筑震害的调研,进行了不同类别建筑结构震害指数与破坏机理的研究。研究表明,震害指数由低到高的结构依次为混凝土框架结构、实心砖混结构、砖木结构、空心砖混结构和土木结构。混凝土框架结构要严格按照强柱弱梁的抗震概念进行设计,加强填充墙与框架柱的连接;实心砖混结构、空心砖混结构应设置构造柱、圈梁、预制楼板拉结筋,增强房屋抗倒塌能力;空心砖混结构还要在砌块内腔配置足量的钢筋,提高砂浆强度;土木结构、砖木结构应从建筑材料、构造措施等方面予以加强。要研究适合当地特色的新型结构抗震体系,提高结构的抗震性能。

Abstract: Yushu  $M_s$  7.1 earthquake occurred on April 14, 2010 in Qinghai Province. A large number of school buildings were severely damaged or collapsed. Damage index and the failure mechanism analysis of different category of building structures were carried out through field investigation. The results show that the structure damage index from low to high in order is concrete frame structure, solid brick masonry structure, brick-wood structure, hollow brick-masonry structure and earth-wood structure. The design of concrete frame structure should be in accordance with the seismic concept of strong column and weak beam strictly,

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and the connection between infill walls and frame columns should be strengthened. For the solid brick and hollow brick masonry structure, we should set constructional column, ring beam, tie bar between prefabricated floors and tie bar between walls to enhance the anti-collapse ability of the structure. In addition, sufficient reinforcement is necessary in the block cavity of hollow brick to improve the strength of mortar. The brick-wood structure and earth-wood structure must be improved on the material and construction measure. The new structure systems suitable for the locality need to be studied to improve the seismic performance of the structure.

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#### 参考文献/REFERENCES

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