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REMOTE SENSING ARCHAEOLOGICAL STUDY OF HAN GREAT WALL DEFENCE SYSTEM IN ANCIENT DUNHUANG, NW CHINA

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ABSTRACT:

According to the historic records, the Han Dynasty (202 BC-220 AD) built many walls (Han Great Wall) to consolidate the safety of the frontier regions as well as exploring the Silk Road to do business with western region. Based on the historic records, census data and archaeological maps, this paper performed a comprehensive archaeological study on the Han Great Wall defence system in ancient Dunhuang by using remote sensing, GIS and GPS. The results show: (1) Four new sites were discovered from the GIS-derived archaeological potential areas, many iron fragments, brick and pottery fragments, and polished stones were found, and moreover, a "Five Baht" coin and a Knife-shaped coin. (2) Statistical analysis of historic records and census data, image interpretation of remote sensing images, GIS analysis, and field surveys were carried out to contribute to the positioning of the Garrisons along the Han Great Wall. (3) Being integrated historical-geographical manuscripts and Stein's archaeological maps with census data and remote sensing imagery, the spatial distribution of the beacon towers were identified, and the Han Great Wall defence system was reconstructed. The reconstruction of the Han Great Wall defence system in ancient Dunhuang contributing to understanding of the ancient military activities and socioeconomic change in the frontiers.

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