**Geological structure mapping for gold exploration targets using PALSAR remote sensing data in the Central Gold Belt, Peninsular Malaysia**

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**Abstract**

The Phased Array type L-band Synthetic Aperture Radar (PALSAR) data significantly improved the quality and availability of satellite remote sensing data for geological structure mapping and gold prospecting in tropical environments. PALSAR is an active microwave sensor for all-weather conditions observation. The Central Gold Belt (CGB) of peninsular Malaysia with widespread small-scale gold mining areas and tropical climate has been investigated to explore new potential areas. Gold mineralization in this belt is structurally controlled and hosted in sedimentary rocks. Adaptive Local Sigma and Directional filters were applied to the Level 4.1 PALSAR data for tracing structural elements associated with gold mineralization. Structural features along the Bentong-Raub suture zone have been traced as highly potential areas for prospecting gold mineralization. Four sets of lineaments trending N-S, NE-SW, NNW-SSE and ESE-WNW associated with fault-related rocks have been identified. Results of this study demonstrate the applicability of PALSAR remote sensing data to assist more feasible gold exploration plans in the Central Gold Belt (CGB) and reduction of exploration costs for epithermal or polymetallic vein-type mineralization in tropical environments.

*Key words*: PALSAR; Gold exploration; Central Gold Belt;Peninsular Malaysia.

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