



Tectonics of the Precambrian basement-Paleozoic cover interface in Pyeongchang area, Korea

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In the Pyeongchang area of the central eastern Korea, the Precambrian basement-Paleozoic cover interface is characterized by ductile mylonitic deformation and regional stretching lineations. A mylonitic zone and a late superimposed thrust separate Precambrian crystalline and metasedimentary basement rocks from an upper allochthonous Paleozoic rocks. Both including stretching lineations is suffered late WNW ward vergence folding. This late folding trend and its character are coincided with middle to late Triassic tectonics. Thus, we suggest that the mylonitic ductile deformation is the result of late Paleozoic to early Triassic shearing tectonics. Strain analysis shows that (1) strain results from large-scale progressive shearing deformation in a non-coaxial regime, (2) NNE regional stretching lineations represent the direction of shearing and translation, (3) after restored F2 folding effect, (4) kilometric-scale folds parallel to the lineations are interpreted as "a"-type (or sheath) folds formed by northward shearing previously southeastward dipping. A model is proposed to explain the observed geometry and kinematics of the structures. During the late paleozoic northeastward indentational collision of Korea-South China block to the North China block, its southeastern margin is limited by dextral strike-slip movements. This movement induced emplacement of Paleozoic sediments on the Precambrian basement and ductile mylonitic deformation. Its stretching lineations are parallel to the slip plane which is nearly horizontal. During late compressional tectonics enabled the development of a folding localized at the Paleozoic cover between Precambrian basement. The Jurassic dextral ductile shear zone is developed after this later compressional tectonics.