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Study on investigation techniques of uplift rate using sediment of incised meander scars

Ken-ichi Yasue^{1*}, Shin-ichi Tanikawa¹, Atusi Ninomiya², Atsushi Tanase³

¹JAEA, ²SRED, ³CSC

We focused on the incised meander scars to be distributed along the river and carried out a study of the estimate technique of the uplift rate using the sediment on the scars. More than 800 incised meander scars in Japanese Islands were extracted by interpretation of 1:25000 topographical maps. The scars are distributed over various altitudes. As a case study, we studied about uplift rate using the incised meander scars in an area along Totsukawa River where typical scars were distributed over various altitudes. The sediment was got by machine digging with high preservation quality of the unconsolidated materials. Sedimentation age was estimated by volcanic ashes analysis. The age of the sediment on the incised meander scars of relative height approximately 90 m from the present riverbed is approximately 300-400 thousand years ago. From these results, given the dynamic equilibrium of the riverbed height, the uplift rate is estimated at a few ten centimeters for one thousand years. It is an assignment to increase case studies to show validity of the estimation technique of the uplift rate using the sediment on the scars. In addition, the comparison with the result of different techniques is an assignment.

Keywords: uplift, denudation, incised meander scars, detached meander core