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HGM002-P03 会場:コンベンションホール 時間:5 月 24 日 16:15-18:45

台湾の石門ダム流域における遷急点について
Knickpoints in Shihmen Reservoir Watershed

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The Shihmen reservoir watershed, northern Taiwan, has many knickpoints, which could be interpreted as a response of river incision against base-level lowering probably by uplift. The drainage network of Shihmen reservoir watershed is framed by trunk Dahan River, its three major tributaries and many minor tributaries. The knickpoints are identified from longitudinal profiles by using a 12-m DEM. A strong power-law relation is presented between drainage area above a knickpoint and distance from drainage divide to a knickpoint. There is a poor power-law relation between drainage area above a knickpoint and elevation of a knickpoint. Major tributaries have four or five major knickpoints each, and one knickpoint along one major tributary can be correlated to a knickpoint along another major tributary. This is indicative that landscapes respond to base level lowering via upstream propagation of knickpoints. Most selected third-to first-order minor tributaries display prominent steep reach at the confluences with trunk or major tributaries with relative height of several tens to a few hundred meters. The minor tributaries of the major tributaries also have knickpoints, which are frequent on higher-order streams and could be correlated to each other and to the knickpoints along the major tributaries. This does indicate that knickpoints in these tributary basins are the result of multiple episodes of base-level lowering on Dahan River.

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