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Characterization of Shalbatana Vallis landslides

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Shalbatana Vallis is a valley located in the Oxia Palus quadrangle, characterized by a simple system and a homogeneous coverage. Shalbatana vallis flows into the Chryse Planitia basin, alongside Ares Vallis, Kasei Valles, Simud Valles and Tiu Valles. The valley is affected in different points by landslides with various surfaces and elongations. Landslides on Mars are a topic already studied by other authors. However, the problem of the dynamic of such structures remains debated. The landslides of Shalbatana Vallis occurred in a homogeneous lithology and in a valley with a quite constant depth. We first present the ages of the landslide and discuss the age distribution. The, we present a geometrical analysis of the landslides (surface, elongation, volume, runout, etc....) and use these parameters to constrain some dynamical properties (possible velocity, possible loss of volatiles) and to discuss possible triggering mechanisms.