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Ophiolite obduction as cause for the Middle to Late Jurassic tectonic processes in the Northern Calcareous Alps - ophiolitic detritic material in Kimmeridgian calcareous basin sediments (Saalach zone)

GAWLICK, H.-J.¹, MISSONI, S.¹, AUBRECHT, R.², SCHLAGINTWEIT, F.³, PLASIENKA, D.²

¹ Montanuniversität Leoben, Department of Applied Geosciences and Geophysics, Petroleum Geology, Peter-Tunner-Straße 5, 8700 Leoben, Austria

² Comenius University, Department of Geology and Paleontology, Faculty of Natural Sciences, Mlynská dolina - G, SK-842 15 Bratislava, Slovakia

³ Lerchenauer Straße 167, 80935 Munich, Germany

The causes for the Middle to Late Jurassic tectonic processes in the Northern Calcareous Alps are still controversially discussed. There are still several contrasting models for these tectonic processes, formerly invented as "Jurassic gravitational tectonics".

Whereas in the Dinarides or the West Carpathians Jurassic ophiolite obduction and a Jurassic mountain building process with nappe thrusting is widely accepted these processes are still questioned for the Eastern Alps. For the Northern Calcareous Alps still an Early Cretaceous nappe thrusting process is widely favored instead of a Jurassic one, obviously all other Jurassic features are nearly identical in the Northern Calcareous Alps, the West Carpathians or the Dinarides. In contrast, the Jurassic basin evolution processes as best documented in the Northern Calcareous Alps were in recent times adopted to explain the processes in the Carpathians and Dinarides. Whereas in the West Carpathians Neotethys oceanic material is present in the Dinarides huge ophiolite nappes are present above the Jurassic basin fills and mélanges, Jurassic ophiolites or ophiolitic remains are not clearly documented in the Northern Calcareous Alps.

To fill the gap, we present analyses of ophiolitic detritic material from Kimmeridgian silicified allodapic limestones (Sillenkopf Formation) from the Saalach zone in the Northern Calcareous Alps.