

Continental crust subduction-related structures: contrasting evolutions vs. contrasting memories

M. Zucali¹, M.I. Spalla¹, D. Zanoni¹, M. Roda¹, F. De Salvo¹, L. Corti¹, G. Rebay²

¹Università degli Studi di Milano – Dipartimento di Scienze della Terra “A. Desio”

²Dipartimento di Scienze della Terra e dell’Ambiente, Università degli Studi di Pavia, Via Ferrata 1, 27100 Pavia, Italy.

In this contribution, we will describe examples from the subducted continental crust of the Western Alps, Austroalpine domain. We will integrate results from structural geology, petrology/geochemistry, and modelling, at different scales from lithosphere to atomic scale, emphasising the roles of contrasting tectono-metamorphic evolutions versus the efficiency of rocks to memorize their promenade along the subduction plate interface or close to it. We will compare the evolution of continental crust slices found at different positions within the subduction architecture and recording specific structural features and metamorphic parageneses. We emphasise that the combined use of structural and metamorphic criteria is the only nowadays reliable method to fully investigate such a heterogeneous system.