# Age and geochemical characteristics of kinzigites from the Collo area (NE Algeria)

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Although minor components, orogenic peridotites occur in most orogenic belts and constitute invaluable material to study mantle dynamics. One of the most challenging issue is to decipher the geodynamical setting as well as the age and mechanisms by which peridotites were transferred into the crustal units. In this study, we focused on the low pressure, granulite facies metamorphic units (kinzigites) in tectonic contact with the Collo peridotites of Lesser Kabylia (Northeastern Algeria), one of the most important outcrop (*c*. 20km$^2$) of ultramafic rocks on the northern margin of Africa. The contact between the kinzigites and the peridotites is outlined by mylonitic shear zones and, close to the contact, kinzigites display a N-S trending subvertical foliation, similar to that observed in the peridotites. Kinzigites analysed for major and trace elements yield high and homogeneous $SiO_2$ and $Al_2O_3$ contents (from 69 to 74wt% and from 15 to 16wt% respectively). Chondrite-normalized REE patterns are LREE enriched ($La/Yb_N$ = 13-18) and show a weak negative Eu anomaly (Eu/Eu* = 0.7), comparable to PAAS. Reported in the discrimination diagrams for major elements, kinzigites plot in the field of active continental margin, consistent with low Zr/Th ratios (2-8). Monazite from three samples were dated in-situ by laser-ablation ICP-MS and yield consistent ages of 17.42 ± 0.54 Ma, 17.62 ± 0.34 and 17.72 ± 0.48 Ma. These ages are slightly older than that, but in the range, of the post-collisional 17 Ma old Cap Bougaroun granite, suggesting that monazite in the kinzigites grew or was isotopically reset during intrusion of the batholith.