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Abstract Title:
Age range of the latest alkaline magmatic activity of Uruguay

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Abstract Text:
Volcanic and intrusive activity corresponding to the Paraná Magmatic Province (PMP) [1], is found in the NW region of Uruguay. This magmatism is restricted to the locally known as Norte Basin, correspondent to the southern extreme of the Paraná Basin. Recent studies have shown the ocurrence of mafic alkaline subvolcanic rocks cross cutting the basaltic pile of the PMP, characterized as subvolcanic plugs, regarding to their structural, textural and geomorphologic features. They were classified as Ne-tephrites, and also basalts and trachybasalts with nepheline and alkaline affinity [2]. The first set of ages obtained for two plugs of Ne-tephrites ponted out the first Uruguayan record of a magmatic event in the Paleogene (63.7 +/- 2.5 Ma and 51.5 +/- 1.7 Ma) [3]. The aim of this abstract is to present the results of K-Ar (whole rock) geochronology analyses perfomed at Actlabs Laboratories (Canada), obtained on nine plugs involving the different lithologies present in the area.

The new results have enlarged the length time of this alkaline activity, establishing a range of ages between 82.4 +/- 1.3 Ma and 51.5 +/- 1.7 Ma. Previous data indicated that the youngest occurrences correspond to Ne-tephrites (65.5 +/- 4 Ma and 51.5 +/- 1.7 Ma), while the oldest correspond to the occurrences of tracybasalts and alkaline basalts. These new records of alkaline plugs allow to confirm the presence of a Late Cretaceous to Eocene tecto-magmatic event with alkaline affinity in northwestern Uruguay.

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[1]Peate, D. (1997) Geoph.Monograph 100, 217-245.

[2]Muzio, R. et al. (2022) Journal of South American Earth Sciences, 116, https://doi.org/10.1016/j.jsames.2022.103796

[3]Muzio, R. et al. (2020) Goldschmidt2020, Abstracts.

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