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The field of the electrojet from CHAMP data

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We apply simple but original linear and non linear transforms and averaging techniques to two years of scalar and vector data of CHAMP satellite. First a map of the (transformed) crustal anomaly field is computed. It is so stable that it can be removed from the total transformed field, with as a result a (transformed) map of the external field alone. We focus here on the field of the electrojet, perfectly isolated by the described technique. The uniformity of the electrojet intensity in longitude, the precise local times of its onset and its extinction are investigated. Pictures of the electrojet field at different universal times – from 0 h UT to 23 h UT – are presented, and the question of the closing currents is quantitatively discussed. Some tiny features appear on the dip equator, outside the electrojet.