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Determination of source location of the Auroral Kilometric Radiation using two- spacecraft observations

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The terrestrial auroral kilometric radiation (AKR) is a strongly polarized variable electromagnetic emission generated at frequencies between 20 and 1000 kHz with the sources mainly located in the nightside region of the Earth's magnetosphere. The already established method of direction finding with tree orthogonal antennas as well as new "geometrical" method based on the mapping of the AKR emission cone onto the dynamic spectrum has been applied to the Interball 2 - Polrad spacecraft observations. This "geometrical" method allows the determination of the radio source position using more numerous single channel spectra ("non direction finding" mode of the Interball 2 - Polrad polarimeter, when only one antenna is operated). Simultaneous observations from Interball 2 and Polar spacecraft can provide some indications about directivity diagram of the AKR emission and possible source movements. The first results will be presented.