



Non-uniformity test for directional data of Japanese active faults

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Abstract

We will derive the LM test statistic for the conditional von Mises distribution for detecting non-uniformity of line segments spread on the two dimensional plane , which has relatively high performance even for small samples as the extension of V-test to half circle. We illuminate the performance of this test by conducting simulation studies and also apply to Japanese active faults.

Keywords: directional statistics; Rayleigh test; LM test; von Mises distribution.