Decreases in the b- value of Micro-earthquake Activity Prior to Intermediate Magnitude Earthquakes in Kanto, central Japan

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Changes in b-value are studied using microearthquakes obtained from a network in Kanto. A parameter, db is defined as db = b1 - b2 (b1, b2 ; two b-values) and is transformed into s by $s = \exp(db)/(1+ \exp(db))$. To get a distribution of s, s values are surveyed for the period from 1982 to 1999 in a 160x160x80 km**3. Within this volume, 16 target events with M>5.5 occurred. The conditional distribution of s is estimated from 16 s values, referring to the s value just before each target. The distribution of the population becomes a function of symmetry with a peak of probability located at a value of 0.5, which corresponds to no change in b-value. On the contrary, the conditional distribution becomes asymmetry feature, which tends to cause b-value decreases. This can be confirmed by testing.