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A QUASI-BIENNIAL OSCILLATION APPEARING IN THE MONTHLY
RAINFALL OVER INDONESIA REGION

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The analysis of the long-term fluctuation of monthly rainfall (1951-1973) revealed that the year-to-year variability of the rainfall in and around Java is large in the "east monsoon" (dry) season and relatively small in the "west monsoon" (rainy) season. The empirical orthogonal function analysis of the anomaly rainfall showed that the quasi-biennial oscillation (QBO) is dominant over the most part of Indonesia region with the large variance (29% of the total variance), and that the large variability in the east monsoon season is mostly explained by this component. The second components (6.2% of the total variance), in contrast, represents the variation in the west monsoon season with a contrastive spatial pattern between the Java Sea side and the Indian Ocean side of the Java island. It was also confirmed that the first component (QBO mode) in the anomaly monthly rainfall is closely connected with QBO in the surface pressure field over Australasia through the eastern south Pacific found by Trenberth (1975). The second component is associated with the north (south-) ward displacement of the winter monsoon circulation system in the Northern Hemisphere. The association between the "Southern Oscillation" and these two modes are also briefly discussed.