

RINGKASAN

Lombok merupakan salah satu pulau yang berada di Provinsi Nusa Tenggara Barat yang terletak di antara Pulau Bali dan Sumbawa. Sumber gempabumi yang mengancam wilayah ini berasal dari zona subduksi Lempeng Indo-Australia yang menunjam Lempeng Eurasia. Penentuan posisi hiposenter bermanfaat dalam analisis struktur detail seperti identifikasi zona patahan dan sebaran serta orientasi *micro fracture* (patahan micro). Metode *double difference* merupakan salah satu teknik yang digunakan untuk merelokasi hiposenter gempabumi. Teknik *double difference* didasarkan pada kenyataan bahwa jika terdapat perbedaan jarak antara dua hiposenter yang sangat kecil dibandingkan dengan jarak antara kedua hiposenter tersebut terhadap stasiun dan memiliki skala kecepatan heterogenitas yang bisa dikatakan mirip, maka pola sinar gelombang yang dihasilkan dapat dikatakan identik antara kedua hiposenter tersebut. Sebanyak 273 kejadian gempabumi berhasil direlokasi dengan nilai residual waktu tempuh yang berada di nol dan mendekati nol. Persebaran gempa setelah direlokasi menunjukkan gempa di daerah Lombok dan Sekitarnya pada tahun 2018 sebagian besar berada di utara Pulau Lombok, dimana terdapat Sesar Flores disebelah utara Pulau Lombok yang disinyalir sebagai sumber aktivitas seismik. Berdasarkan hasil relokasi menunjukkan kemiringan Sesar Flores sebesar 12.68° yang disebabkan oleh dorongan Lempeng Indo-Australia secara horizontal.

Kata Kunci: Sesar Flores, subduksi, *double difference*, hiposenter; Lombok

SUMMARY

Lombok is one of the islands in West Nusa Tenggara Province, which is located between the Islands of Bali and Sumbawa. The source of the earthquake that threatens this region comes from the subduction zone of the Indo-Australian Plate which is piercing the Eurasian Plate. Hypocenter positioning is useful in detailed structural analysis such as fault zone identification and distribution and micro fracture orientation. The double difference method is one of the techniques used to relocate the hypocenter of earthquakes. The double difference technique is based on the fact that if there is a difference in the distance between the two hypocenters which is very small compared to the distance between the two hypocenters and the station and has a heterogeneous velocity scale that can be said to be similar, then the resulting wave beam pattern can be said to be identical between the two hypocenters. A total of 273 earthquake events were successfully relocated with the residual value of the travel time that was at zero and close to zero. The spread of the earthquake after being relocated shows that the earthquake in the Lombok and Surrounding areas in 2018 was mostly located in the north of Lombok Island. Where there is the Flores Fault in the north of Lombok Island which is alleged to be a source of seismic activity. Based on the results of the relocation, it shows the slope of the Flores Fault of $12,68^{\circ}$ which is caused by the horizontal thrust of the Indo-Australian Plate.

Keyword: *Flores Fault, subduction, double difference, hypocenter; Lombok*