Based on the research that examines about moment-tensor and fault-plane pattern from South Sumatera’s earthquake focal mechanism, Indonesia lays on a strongly active tectonic zone which caused by the concourse of the world’s three main earth plates including nine smaller other plates. Earthquakes that happen in Sumatera island is an implication from the active deformations and geodynamics around Sunda and Java trench. ISOLA-GUI program was used in determining the moment-tensor and the focal mechanism by doing the inversion process and calculating the Green function formula. The data comes from focal mechanism calculation is used to determined the fault-plane and the slip value from the fault. The data used in this research has magnitude’s value approximately 5.5 Ritcher Scale and not less. The result in this research is compared to the result from the Global CMT to strengthen the final conclusion, as for the result in this research concluded that the fault-plane patterns happens in South Sumatera using earthquake’s data during 2011-2014 periods is the reverse-fault pattern and dip-slip. For the dip-slip pattern itself was suspected as implication from subduction zone in the west region of Sumatera island with the moment-tensor value range from $M_{11} = 2.531 \times 10^{15}$ to $0.205 \times 10^{18}$, $M_{22} = 3.495 \times 10^{15}$ to $0.337 \times 10^{18}$, $M_{33} = 0.964 \times 10^{15}$ to $0.131 \times 10^{18}$, $M_{31} =$
$0.544 \times 10^{15}$ to $5.174 \times 10^{18}$, $M_{32} = 1.107 \times 10^{15}$ to $4.113 \times 10^{18}$, and $M_{12} = 1.140 \times 10^{15}$ to $0.430 \times 10^{18}$. Whereas the average slip value from earthquake event happens in South Sumatera region during 2011-2014 periods is 274.71 meters.

**Keywords** : Moment tensor, focal mechanism, reverse fault, and dip slip