Seismic velocity and CO2 saturation for CO2 sequestration

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Consideration about different types of distribution of CO2 saturation is very important to estimate relationship between seismic velocity and CO2 saturation for CO2 sequestration. We studied sonic log and neutron log obtained in Nagaoka CO2 geological sequestration project and found that the distribution of CO2 saturation is patchy saturation. Assuming different types of distribution of saturation, we estimated CO2 saturation for each case, uniform, patchy, and Brie formula. Consequently, patchy saturation and Brie formula gave reasonable value and the result shows good agreement with CO2 saturation calculated from neutron log.