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Yuya Miyata* (y-miyata@math.kyushu-u.ac.jp), Graduate School of Mathematics, Kyushu University, Motooka 744, Fukuoka, Fukuoka 819-0395, Japan. *On the topological complexity of S^3/Q_8* . Preliminary report.

Topological complexity was first introduced in 2003 by Farber as a homotopy invariant for a connected topological space X , denoted by $\text{TC}(X)$. Although the invariant is defined in terms of elementary homotopy theory using well-known Serre path fibration, not many examples are known to be determined concretely by now, except for works done by authors especially Grant and Farber. In 2010, Iwase and Sakai showed that the topological complexity of a space is a fibrewise version of a L-S category for a fibrewise space over the space. In this presentation, we determine the topological complexity of S^3/Q_8 using a method produced from the fibrewise view point. (Received September 05, 2019)