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Alvaro Lozano-Robledo*, 341 Mansfield Road U1009, Storrs, CT 06269-1009. *ℓ -adic Galois representations attached to elliptic curves with CM.*

In a recent preprint, Rouse, Sutherland, and Zureick-Brown have given a (conjectural) explicit classification of all the ℓ -adic Galois representations (up to conjugation) attached to elliptic curves over \mathbb{Q} without complex multiplication. In this talk, we apply a recent classification (by the speaker) of Galois representations attached to curves with CM to give a complete and explicit classification of all the ℓ -adic Galois representations in the CM case over \mathbb{Q} . In particular, we will describe how many different representations appear for each rational j -invariant with CM. (Received January 14, 2022)