
For a fixed elliptic curve, $E$, over the rational numbers, define an entanglement field for $E$ to be the intersection between $\mathbb{Q}(E[m_1])$ and $\mathbb{Q}(E[m_2])$, where $m_1$ and $m_2$ are relatively prime. In this talk, we will discuss our ongoing efforts to classify, using explicit methods, entanglement fields which are non-abelian over the rational numbers. These results are related to statistical aspects of the arithmetic of elliptic curves. (Received September 16, 2014)