

Certain right-angled Artin groups in mapping class groups

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In 2012 Koberda proved that, for a connected orientable surface S with negative Euler characteristic, a full embedding of a finite graph Γ into the curve graph $\mathcal{C}(S)$ gives rise to an embedding of the right-angled Artin group $A(\Gamma)$ into the mapping class group $\text{Mod}(S)$.

Recently the speaker proved that we can reduce an embedding $A(\Gamma) \hookrightarrow \text{Mod}(S)$ to a full embedding $\Gamma \rightarrow \mathcal{C}(S)$ when Γ is the complement graph of a linear forest. In this talk, by using these results, we decide whether certain right-angled Artin groups is embedded into the mapping class groups. As an application, we also discuss the existence of embeddings between finite index subgroups of mapping class groups. This is joint work with Erika Kuno.