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Some results on the Auslander-Reiten theory of infinite quivers

Let $k$ be a field and $Q$ be a strongly locally finite quiver, that is, $Q$ is a locally finite quiver such that for any pair of vertices $x$, $y$, there are finitely many paths from $x$ to $y$. In a joint work with R. Bautista and S. Liu, we get a complete description of the Auslander-Reiten quiver of $\text{rep}^+(Q)$, the category of the finitely presented representations of $Q$ over $k$. In this talk, I will discuss these results and extend them to get a partial description of the Auslander-Reiten quiver of the whole category $\text{rep}(Q)$ of the locally finite dimensional representations of $Q$ over $k$. To this end, I will introduce a full subcategory of $\text{rep}(Q)$ which contains most of the Auslander-Reiten theory of $\text{rep}(Q)$. 