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Using Machine Learning to Identify outliers in the Fundamental Metallicity Relation.

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The chemical evolution of galaxies is intricately linked to the interplay between Active Galaxy Nuclei (AGNs) and galactic interactions. This is exemplified in the fundamental metallicity relation (FMR) which characterizes the chemical evolution of galaxies where stars are formed. Although AGN feedback is reflected in the FMR, galaxies that host AGNs follow the same relation as those that are star-forming. However, interacting galaxies, such as pairs or mergers, seem to constitute a distinctive population that deviates from the FMR. Our objective is to identify outliers through machine-learning algorithms that scour for correlations with incorrectly classified galaxy types or interaction statuses.

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