Projective Ideals of Skew Polynomial Rings over HNP Rings

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This talk is mainly based on a joint work, with the same title, by E. Akalan, P. Aydoğdu, H. Marubayashi, B. Saraç and A. Ueda. Let R be an hereditary Noetherian prime ring (or, HNP ring, for short), and let $S = R[x;\sigma]$ be a skew polynomial ring over R with σ being an automorphism on R. Our first goal is to characterize maximal right and left v-ideals (or equivalently ideals which are maximal amongst right or left projective ideals) of S as the same set consisting of certain type of ideals that are either idempotent or invertible. Next, we turn our attention to right projective ideals and obtain that any right projective ideal of S is of the form $X\mathfrak{b}[x;\sigma]$, where X is an invertible ideal of S and $\mathfrak{b}$ is a σ-invariant eventually idempotent ideal of R. We also give descriptions of certain types of ideals in S including prime ideals and maximal invertible ideals.

References

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