Research

Algebra Seminar

Köthe's Problem, Kurosch-Levitzky Problem and Graded Rings

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Time: 2:30 pm

Acesso à sala virtual:
https://us02web.zoom.us/j/88339053665?pwd=S2xCeFR3VUdCdGZHUnpCZHZRbjZQdz09
ID da reunião: 883 3905 3665 Senha de acesso: 975213

Abstract. Let $\mathcal{R}$ be an associative ring graded by left cancellative monoid S, and e the neutral element of S. We study the following problem: if $\mathcal{R}_e$ is nil, then is $\mathcal{R}$ nil/nilpotent? We proved that if $\mathcal{R}_e$ is nil (of bounded index) and f-commutative, then $\mathcal{R}$ is nil (of bounded index). Later, we shown that $\mathcal{R}_e$ being nilpotent implies $\mathcal{R}$ is nilpotent. Consequently, we exhibited a generalization of Dubnov-Ivanov-Nagata-Higman Theorem for the graded algebras case. Furthermore, we exhibited relations between graded rings and the problems of Köthe and Kurosh-Levitzky. We proved that f-commutative rings provide positive solutions to these problems, and we also present a generalization of Kurosh-Levizky Problem for the graded rings whose neutral components are f-commutative.

This is a joint work with Irina Sviridova (MAT/UnB).