

# First Joint Meeting Brazil Italy of Mathematics

## Special Session: Group Theory

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**Title:** On the growth of graded identities

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**Abstract:** Let  $A$  be a  $\mathbb{C}$ -algebra and  $G$  be a finite abelian group. Then a  $G$ -graded algebra is simply a  $G$ -algebra and viceversa because of the fact that  $G$  and its group of characters  $\hat{G}$  are isomorphic. This fact is no longer true if we substitute  $G$  by infinite or non-abelian groups. In this paper we obtain similar results for a special class of abelian monoids, i.e., the bounded semilattices. Moreover, if  $S$  is such a monoid, we are going to investigate the role of  $S$  and its Pontryagin dual  $\hat{S}$  on the algebra  $A$ , in the case  $A$  is  $S$ -graded.