

Middle East Technical University
Institute of Applied Mathematics and Mathematics Department

JOINT SEMINAR

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Quasi-projective characters in representation theory

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For an irreducible p -Brauer character φ let Φ_φ denote the ordinary character associated to the projective cover of the module afforded by φ . We call a character Λ *quasi-projective* (with resp. to p) if $\Lambda = \sum_\varphi a_\varphi \Phi_\varphi$ with $a_\varphi \in \mathbb{Z}$. A p -Brauer character φ is called *quasi-liftable* if there is an ordinary character χ such that the Brauer character of its reduction mod p is a multiple of φ . For finite p -solvable groups it is well-known that all quasi-projective characters are projective, i.e. $a_\varphi \geq 0$, and all irreducible p -Brauer characters are liftable. In the talk we discuss the situation for arbitrary finite groups and generalize the results to *quasi-projective p -Brauer characters*.