Structures of Irreducible Yetter-Drinfeld Modules over Quasi-Triangular Hopf Algebras

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(This is a joint work with Dr. Liu Zhimin)

Let (H, R) be a finite dimensional semisimple and cosemisimple quasi-triangular Hopf algebra over a field k. In this talk, by using the Majid's transmuted braided group of H and Ostrik's theorem on characterizing module categories over monoidal categories, we present a structure theorem of irreducible objects of the Yetter-Drinfeld H-module category.

Our structure theorem generalizes the results of Dijkgraaf-Pasquier-Roche and Gould on Yetter-Drinfeld modules over finite group algebras.

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