

## ON THE VALUES OF FROBENIUS-SCHUR INDICATORS FOR HOPF ALGEBRAS

Let  $H$  be a semi simple Hopf algebra over  $\mathbb{C}$ , and let  $V$  be an irreducible representation of  $H$  with character  $\chi$ . Let  $\Lambda$  be the integral of  $H$  with  $\varepsilon(\Lambda) = 1$ . The  $n$ th Frobenius-Schur indicator of  $V$  is defined by

$$\nu_n(V) := \chi(\Lambda^{[n]}),$$

where for any  $x \in H$ ,  $x^{[n]} = \sum x_1 x_2 \cdots x_n$  is the  $n$ th Hopf power of  $x$ . This agrees with the classical FS-indicator for finite groups.

Indicators have become a very useful tool for studying Hopf algebras and their categories of representations. Thus it is important to know what possible indicator values can occur. For groups, all values of  $\nu_n(V)$  are integers, but this can fail for Hopf algebras.

The Hopf algebra  $D(G)$ , the Drinfel'd double of a finite group  $G$ , is well-behaved in many ways and closer to groups, and so it was hoped that in this case all indicator values were integers. We discuss recent work with Iovanov and Mason on this problem.