S-CONSTRUCTIONS, AUSLANDER ALGEBRAS, AND WRAPPED FLOER THEORY

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We will explain that, beyond their purpose for defining algebraic K-theory, Waldhausen's S-construction and higher variants have interesting structural interpretations in the representation theory of finite-dimensional algebras and in wrapped Floer theory. This opens up the opportunity to apply techniques from either of the involved subjects to the benefit of the others. We will demonstrate this by giving a symplectic proof of a certain "binomial duality" among the cells of the higher S-construction discovered by Beckert. Finally, we discuss further applications to gluing formalisms for Fukaya categories of symmetric products.

The talk is based on joint work in progress with G. Jasso and Y. Lekili.