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Elizabeth Dan-Cohen* (e.dancohen@jacobs-university.de), Campus Ring 1, 28759 Bremen, Germany, and **Ivan Penkov** and **Vera Serganova**. *Tensor category of integrable modules over \mathfrak{sl}_∞ , \mathfrak{so}_∞ , and \mathfrak{sp}_∞ .*

We find an interesting category of representations of the three simple finitary Lie algebras, \mathfrak{sl}_∞ , \mathfrak{so}_∞ , and \mathfrak{sp}_∞ . The modules in this category are not only integrable weight modules, but also together with their dual modules have finite Loewy length. We are able to describe the injective modules in this category, and show that the category corresponds to a particular Koszul ring. (Received August 12, 2010)