

1165-13-269

**Lars Winther Christensen\*** (lars.w.christensen@ttu.edu), **Sergio Estrada** and **Peder Thompson**. *Gorenstein global dimensions*. Preliminary report.

We prove that the *Gorenstein weak global dimension*,

$$\text{Gwgldim}A = \sup\{\text{Gflat.dim}_A M \mid M \text{ is an } A\text{-module}\},$$

of an associative ring is a left/right symmetric invariant, thus providing a positive answer to a question that was formally raised by Bennis. The proof relies on the recently developed theory of Gorenstein flat-cotorsion dimension, which is a refinement of the Gorenstein flat dimension. For a commutative ring  $A$  we prove that the Gorenstein weak global dimension is finite if and only if all  $A$ -modules have finite Gorenstein flat-cotorsion dimension. (Received January 19, 2021)