

**Sasom, Nongkhran****Finite-dimensional simple Poisson modules.** (English) Zbl 1362.17042

Chiang Mai J. Sci. 39, No. 4, 678-687 (2012).

Summary: We classify the finite-dimensional simple Poisson modules for two Poisson algebras. The first is related to the invariants for an automorphism of the torus and to the cyclically  $q$ -deformed algebra  $U'_q(\mathfrak{so}_3)$  of [M. Havlíček et al., J. Math. Phys. 40, No. 4, 2135–2161 (1999; [Zbl 0959.17015](#)); 42, No. 1, 472–500 (2001; [Zbl 1032.17022](#))]. We find that there are five  $d$ -dimensional simple Poisson modules for each  $d \geq 1$ . The second is the Poisson algebra arising from the quantized enveloping algebra  $U_q(\mathfrak{sl}_2)$  using a presentation discovered by Ito, Terwilliger and Weng [T. Ito et al., J. Algebra 298, No. 1, 284–301 (2006; [Zbl 1090.17004](#))] and we find that there are two  $d$ -dimensional simple Poisson modules for each  $d \geq 1$ .

**MSC:**[17B63](#) Poisson algebras[17B37](#) Quantum groups (quantized enveloping algebras) and related deformations**Keywords:**[Poisson algebras](#); [Poisson ideal](#); [Poisson maximal ideal](#); [Poisson automorphism](#)**Full Text:** [Link](#)