

# Vertex algebras from the Hull-Strominger system

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Motivated by the program on mirror symmetry for non-Kähler manifolds, we construct representations of the  $N = 2$  superconformal vertex algebra associated with solutions of the Hull–Strominger system. The construction is via embeddings of the  $N = 2$  superconformal vertex algebra in the chiral de Rham complex of a string Courant algebroid. Our results require that the connection  $\nabla$ , one of the unknowns of the system, is Hermitian–Yang–Mills. Our main theorem proves that any solution of the Hull–Strominger system satisfying this condition has an associated  $N = 2$  embedding. Joint work with Luis Álvarez-Cónsul and Andoni De Arriba de La Hera in arXiv:2305.06836.