

Moduli spaces and a tensor product for representations of the Cuntz algebra

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The celebrated Cuntz(-Dixmier) algebra O is a simple non-type I C^* -algebra. It then has a large spectrum (classes of irreducible representations) with no canonical topology except the coarse one. We will show that a large part of this spectrum is in bijection with an explicit disjoint union of smooth manifolds. We will then define a tensor product for (certain) representations of O and compute explicit fusion rules. All these results were obtained using the Pythagorean C^* -algebra P and a lifting process from representations of P to representations of O .

These are joint works with Vaughan Jones and with Dilshan Wijesena.