The space of plane curves of degree \(d \geq 1 \) is a closed subvariety of codimension \(d \) in the \(\mathbb{P}^1\) of plane curves of degree \(d \) and its singular locus, coincides with the subspace of \(d \) consisting of sheaves that are not locally free on their support, so called non-compact sheaves, is the universal singular locus, \(\mathbb{M} = \mathbb{M}(d)\) of degree \(d\). Since \(\mathbb{M}(d)\) contains generally speaking sheaves that are not locally free on their support, so called non-compact sheaves, it is known (see [5], [1]) that the universal plane cubic curve may be identified with the fine Simpson resolutions of degree \(d \geq 1 \) with Hilbert polynomial \(p_2(x) = d = 3\). By [1], one obtains a resolution of the type [5], [1].

**Universal singular locus**

Let \(E \subset \mathbb{M} = \mathbb{M}(d)\) be a non-singular sheaves on \(\mathbb{M}(d)\). Then \(E\) is a fine Simpson resolution of degree \(d\), and \(\mathbb{M}(d)\) may be identified with the fine Simpson resolutions of degree \(d\) with Hilbert polynomial \(p_2(x) = d = 3\). By [1], one obtains a resolution of the type [5], [1].

**Parameter space of the universal curve**

Let \(X \subset \mathbb{M} = \mathbb{M}(d)\) be a non-singular sheaves on \(\mathbb{M}(d)\). Then \(X\) is a fine Simpson resolution of degree \(d\), and \(\mathbb{M}(d)\) may be identified with the fine Simpson resolutions of degree \(d\) with Hilbert polynomial \(p_2(x) = d = 3\). By [1], one obtains a resolution of the type [5], [1].

**New objects, construction**

**Some general notions**

- **Examples for different \(d\)**

**References**


