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SEMINÁRIO DE GEOMETRIA

Dia 15 Março (sexta-feira), às 13h30, sala 6.2.33

On the left ideals $\mathcal{K}$ and $\tilde{\mathcal{K}}$ of the Weyl algebra $\mathbb{C}[s_1, \ldots, s_k]\langle\partial_1, \ldots, \partial_k\rangle$ which annihilate respectively all trace functions and all trace forms.

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Abstract:

This is a survey of a work in progress with Teresa Monteiro Fernandès.
For $f \in \mathbb{C}[z]$ define the trace function

$$\psi(s) := \sum_{j=1}^{k} f(z_j)$$

and the trace form

$$\tilde{\psi}(s) = \sum_{j=1}^{k} \frac{f(z_j)}{P'_s(z_j)}.ds_1 \wedge \cdots \wedge ds_k$$

where $z_1, \ldots, z_k$ are the roots of the polynomial $P_s(z) := z^k + \sum_{h=1}^{k}(-1)^h.s_h.z^{k-h}$.
We shall discuss the ideals $\mathcal{K}$ and $\tilde{\mathcal{K}}$ in the Weyl algebra $\mathbb{C}[s_1, \ldots, s_k]\langle\partial_1, \ldots, \partial_k\rangle$ which annihilate respectively all trace functions and all trace forms.

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