RESUMO SIMPLES - CEXA - CIÊNCIAS EXATAS E DA TERRA

EXAMPLES OF MILNOR AND MILNOR-LÊ FIBRATIONS FOR A FAMILY OF MIXED POLYNOMIALS

Rafaella De Souza Martins (rafaella.martins@ufpr.br)

Nivaldo De Góes Grulha Júnior (njunior@icmc.usp.br)

In 2002's authors Ruas, Seade and Verjovsky started with the study of the existence of Milnor and Milnor-Lê fibrations of the following real analytic functions

$$\psi_{(F,X)}(z)=\sum_{(j=1)}^{n} \llbracket k_j \bar{}(t_j) \rrbracket \; z_{(\sigma_j)}^{(a_j)}, \qquad (1)$$

where $k_j,t_j \in C^*$, $a_j,b_j \in Z^+, j=1,\cdots,n$ and $\{\sigma_1,\cdots,\sigma_n\}$ is a permutation of the set $\{1,\cdots,n\}$. When this family of mixed weighted homogeneous polynomials has isolated singularity, by Milnor, we can assume the existence of Milnor and Milnor-Lê fibrations.

We work with a class of real analytical functions with non-isolated critical value, these are of the form the (1), with $a_j = b_j$ for at least one j and $a_j \neq b_j$ for at least one j. This functions does not satisfy the conditions of the work of Ruas, Seade and Verjovsky. We conclude the existence of Milnor and Milnor-Lê

fibrations, using some results of the authors Cisneros-Molina, Menegon, Seade and Snoussi.

We show some characteristics of this family to confirm the existence of the fiber over the regular values and the critical values and the relation between them. Its possible to made the existence of a locally trivial bundle on the discriminant of $\psi_{(F,X)}$ and compare the bundles for a particular case of this family. The $\psi_{(F,X)}$ possesses interesting properties, a particular case of which is ICIS and $\psi_{(F,X)}^{(-1)}(d), d \in \Delta_{(\psi_{(F,X)})}$ are regular manifold.

Palavras-chave: milnor fibration; milnor-lê fibration; non-isolated critical value; mixed polynomials.