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TBA

Mardi 28 Janvier 2020, 10 :15
IHES, Amphithéâtre Léon Motchane
Domaines : math

Titre : *On Compact Clifford-Klein Forms*

Orateur : **Aleksy Tralle (Université de Varmie-Mazurie, Olsztyn & IHES)**

Résumé : *In the talk I will present a mathematically challenging and difficult problem of the (non)existence of compact Clifford-Klein forms of homogeneous spaces G/H. These are quotients of such spaces by discrete subgroups of G acting freely, properly and co-compactly. I will formulate the challenging Toshiyuki Kobayashi conjecture and present several partial results supporting it. The results basically are negative in the sense that I will prove the non-existence of compact Clifford-Klein forms for large families of homogeneous spaces, and the non-existence of standard compact Clifford-Klein forms for all homogeneous spaces of exceptional simple real Lie groups. The methods are purely Lie-theoretical. The approach is quite computational : after expressing the problem as some conditions on Lie subalgebras, we develop algorithms checking known obstructions to the existence of compact Clifford-Klein forms. Algorithms are implemented in the computer algebra system GAP and use classifying algorithms of semisimple Lie subalgebras developed by Willem De Graaf. We use the works of Yosuke Morita and Nicolas Tholozan. The talk is based on my joint work with Maciej Bochenski and Piotr Jastrzebski.*