



ALGEBRA AND GEOMETRY SEMINAR

The Hong Kong University of Science and Technology
Department of Mathematics

Quantization of symmetric pairs

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Chevalley group schemes are group schemes defined over the integers that parametrize connected reductive groups over algebraically closed fields as geometric fibers. Symmetric subgroups are fixed point subgroups of reductive groups under an involutions. In this talk, we construct closed subgroup schemes of Chevalley group schemes that parametrize symmetric subgroups of reductive groups as geometric fibers. Our construction relies crucially on the theory of quantum symmetric pairs and thus naturally admits a quantization. As applications, we obtain deeper insights into the structures of symmetric spaces and their embeddings, yielding applications to their dual canonical basis, good filtrations, integral models, etc. This is based on joint works with Huanchen Bao (NUS).

Room 1104 (Lift 19) Wed, Nov 26, 2025 04:00 PM

