LECTURE SERIES

Mathematical Science Literature

November 25, 2020

9:00am ET- *Virtually*

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Tsinghua University &
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"Theorems of Torelli type"

Given a closed manifold of even dimension 2n, then Hodge showed around 1950 that a kählerian complex structure on that manifold determines a decomposition of its complex cohomology. This decomposition, which can potentially vary continuously with the complex structure, extracts from a non-linear given, linear data. It can contain a lot of information. When there is essentially no loss of data in this process, we say that the Torelli theorem holds. We review the underlying theory and then survey some cases where this is the case. This will include the classical case n=1, but the emphasis will be on K3 manifolds (n=2) and more generally, on hyperkählerian manifolds. These cases stand out, since one can then also tell which decompositions occur.

Talk chair: Shing-Tung Yau

This lecture will be held virtually.
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