

Infinitesimal Torelli for elliptic surfaces revisited

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In this talk we consider the infinitesimal Torelli problem for elliptic surfaces without multiple fibers.

We give a new proof for the case of elliptic surfaces without multiple fibers with Euler number at least 24 and nonconstant j -invariant and with Euler number at least 72 and constant j -invariant.

For all of the remaining cases we will indicate whether infinitesimal Torelli holds, does not hold or our methods are insufficient to decide.

This solve an issue raised by Atsushi Ikeda in a recent paper, in connection with his construction a counterexample to infinitesimal Torelli with $p_g = q = 1$.