On the de Rham cohomology of solvmanifolds

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Abstract. Using results by D. Witte [35] on the superigidity of lattices in solvable
Lie groups we get a new proof of a recent remarkable result obtained by D. Guan
[15] on the de Rham cohomology of a compact solvmanifold, *i.e.*, of a quotient
of a connected and simply connected solvable Lie group G by a lattice Γ. This
result can be applied to compute the Betti numbers of a compact solvmanifold
G/Γ even in the case that the solvable Lie group G and the lattice Γ do not
satisfy the Mostow condition.