

## Betti numbers and the Bochner technique

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We will survey recent results on the Bochner technique for  $p$ -forms. For example, we will see that manifolds with  $\lceil \frac{n}{2} \rceil$ -positive curvature operators are rational homology spheres. We will also give applications to Kähler manifolds. Time permitting, we will consider the curvature operator of the second kind and exhibit curvature conditions that imply vanishing of Betti numbers, yet they do not imply nonnegative Ricci curvature. This is talk based on joint work with Peter Petersen and Jan Nienhaus.