

# THE GEOMETRY OF $G/P$ AND REPRESENTATIONS OF $G$

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Abstract: Let  $G$  be a real simple Lie group and  $P$  be a minimal parabolic subgroup. Then the space  $G/P$  has a generalised conformal Carnot-Carathéodory structure. The geometry of this structure determines, the existence and the range of complementary series, and hence, for instance, whether the group has property T or not. This series of lectures is an attempt to explain how this works.