

After a brief review of the symmetry groups of asymptotically AdS and flat spacetimes, I will discuss in some detail the status of the four dimensional flat case. In particular, I will explain why current algebras need to replace the more traditional algebra of ADM-type charges and briefly comment on the relation to soft theorems.

In three dimensions, more results are available. In particular, the complete solution space is entirely controlled by group theory, the coadjoint representation of the Virasoro group in the AdS case and of the BMS3 group in the flat case. This allows one for instance to prove positive energy theorems by using well-established results on the co-adjoint orbits of the Virasoro group.