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JONATHAN HECKMAN, Harvard University

We consider two sectors of the AdS/CFT correspondence which greatly simplify in the limit of large R-charge. First, we discuss extensions to the work of Berenstein, Maldacena and Nastase on strings in the pp-wave limit of $AdS_5 \times S^5$ and their CFT duals. In particular, we explain how to compute higher order effects in the anomalous dimension spectra of single trace monomials via a virial expansion approach which does not rely on integrability of the underlying spin chain. We then examine the exact match between the anomalous dimension spectra and the string theory spectra up to the two loop level, and comment on the observed discrepancy between the two sides of the correspondence at the three loop level. Next, we look at another sector of large R-charge: the thermodynamics of nearly extremal R-charged black holes in $AdS_5 \times S^5$. We provide evidence that such black holes are well-described by effective strings created by the intersection of two distributions of giant gravitons on S^5 . We also present a free fermion description of the supersymmetric limit of the one-charge black hole, and we give a crude catalog of the microstates of the two and three-charge black holes in terms of operators in the dual CFT.