

# Hadronic Light-Front Wavefunctions from AdS/QCD

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Light-Front Holography is a remarkable consequence of the correspondence between string theory in AdS space and conformal field theories in physical-space time. It allows string modes  $\Phi(z)$  in the AdS fifth dimension to be precisely mapped to the light-front wavefunctions of hadrons in terms of a specific light-front impact variable  $\zeta$  which measures the separation of the quark and gluonic constituents within the hadron. This mapping was originally obtained by matching the exact expression for electromagnetic current matrix elements in AdS space with the corresponding exact expression for the current matrix element using light-front theory in physical space-time. More recently de Teramond and I have shown that one obtains the identical holographic mapping using matrix elements of the energy-momentum tensor, thus providing an important consistency test and verification of holographic mapping from AdS to physical observables defined on the light-front. The resulting light-front Schrodinger equations predicted from AdS/QCD give a good representation of the observed meson and baryon spectra and give excellent phenomenological predictions for amplitudes such as electromagnetic form factors and decay constants.