

Exercise Sheet VIIIa

Hand in by 10.12.2008

Problem 1 [*D1-branes at an angle.*]: Consider two infinitely long D1-branes stretched on the (x^2, x^3) plane. The *first* brane is defined by $x^3 = 0$, and the *second* brane is at an angle γ measured counterclockwise from the x^2 axis. Let the open string coordinates be $X^2(\tau, \sigma)$ and $X^3(\tau, \sigma)$, and consider only open strings which begin on the first brane and end on the second brane. Determine the boundary conditions satisfied by X^2 and X^3 at $\sigma = 0$ and $\sigma = \pi$.