

## RECONNECTION ON THE ION SCALE

LET

$X$  = normal to the current sheet

$Y$  = out-of-plane direction

$Z$  = direction of reconnecting component of  $B$

$E_X, B_Y, B_Z$  = the large fields in a reconnecting current sheet

$e_Y, e_Z, b_X$  = the small fields in a reconnecting current sheet

The most important field components are:

$b_X$

because a normal magnetic field is required for the field lines on the two sides to be connected

$e_Y$  and  $e_Z$

because a tangential electric field is required for  $(\mathbf{E} \times \mathbf{B} / B^2)_X = (e_Y B_Z - e_Z B_Y) / B^2$  to be inward from both sides