1054-17-84 **Jianjun Paul Tian*** (`jptian@math.wm.edu`), Mathematics Department, College of William and Mary, Williamsburg, VA 23187, **Carolyn Troha**, Mathematics Department, College of William and Mary, Williamsburg, VA 23187, and **David Lutzer**, Mathematics Department, College of William and Mary, Williamsburg, VA 23187. *Braid groups and evolution algebras.* Preliminary report.

Evolution algebras are non-associative, but commutative algebras. They seem have many relations or connections with other mathematical subjects. We here established relationships between braid groups and evolution algebras. For each element of braid group B_n, we assign an evolution algebra. The image of B_n under this map is a sub-category of $n-$dimensional evolution algebra category. It may be called evolution algebra representation of braid groups. (Received September 06, 2009)