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Edward Burkard* (edwardburkard@rmc.edu), Randolph-Macon College, Department of Mathematics, 204 Henry Street, Ashland, 23005. *On the Fundamental Group of Symplectic Embeddings of 4-dimensional Ellipsoids.*

We show that the space of symplectic embeddings of an ellipsoid $E(1, x)$ into an infinite cylinder $Z(c)$ has two non-homotopic loops, given by rotations of the ellipsoid $E(1, x)$ in the z_1 and z_2 -planes, provided $c < \min\{2, x\}$ for $1 \leq x \leq 4$, thereby showing that the fundamental group of this embedding space is non-trivial. We also give a constructive proof to show that these two loops are homotopic if $c \geq c_{MS}(x)$ for all $x \geq 1$, where $c_{MS}(x)$ is the McDuff-Schlenk embedding capacity. We contrast this with a result which gives conditions on the size of an ellipsoid $E(a, b)$ and a ball $B^4(R)$ such that the fundamental group of the space of unparametrized embeddings of $E(a, b)$ into $\mathring{B}^4(r) \setminus E(a, b)$ is nontrivial. (Received September 23, 2018)