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**Somnath Basu\*** ([basu@math.sunysb.edu](mailto:basu@math.sunysb.edu)), Stony Brook University, NY. *Transversal string topology and invariants of manifolds.*

We consider the space of smooth paths (open strings) in  $M \times M$  that start and end on the diagonal and only intersect the diagonal transversally, including the end points. At any of its intersection point such a string can be resolved by using the meridian lines connecting antipodal points of the normal sphere to the diagonal. Transversal open strings can also be naturally split at the intersection points giving rise to a differential graded coalgebra. This structure is interesting as it probes the homotopy type of the complement of the diagonal in  $M \times M$  which is known not to be an invariant of the homotopy type of  $M$ . (Received February 15, 2011)