

S^1 -Bott functions on manifolds

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Let M^n be a compact closed manifold of dimension at least 3. With V. Sharko we studied the S^1 -Bott functions on M^n . Separately, we investigated S^1 -invariant Bott functions on M^{2n} with semifree circle action that have finitely many fixed points. Our aim was to find the exact values of the minimum numbers of singular circles of some indices of S^1 -invariant Bott functions on M^{2n} . I shall describe our results and also state some open problems and conjectures.