A new bridge index for links with trivial knot components

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Abstract. In 1954, H. Schubert introduced the concept of bridge indices for knots. For satellite knots, he gave an estimation of bridge indices by using index of the pattern and the bridge index of the companion of the satellite knot under consideration. In 2003, J.Schultens gave a modern proof of the result by using foliation.

In this talk, we consider bridge indices of links. We introduce a new bridge index for non-split 2-component links such that one component of each link is a trivial knot. Roughly speaking, the bridge index is the minimum of the bridge numbers of a link under the constraint that one component of the link is in a minimal bridge position. We give an estimation of the bridge index for satellite links by using the technique of Schultens'. We show, by using the estimation, the new bridge index is essentially different from the standard one.