

A complete classification of 3-manifolds with lengths up to 9 by a canonical order

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This is a joint work with A. Kawauchi. A well-order was introduced on the set of links by A. Kawauchi. This well-order also naturally induces a well-order on the set of prime link exteriors and eventually induces a well-order on the set of closed connected orientable 3-manifolds. With respect to this order, we enumerated the prime links with lengths up to 10 and the prime link exteriors with lengths up to 9. In this talk, we show a complete list of 3-manifolds with lengths up to 9 by using the enumeration of the prime link exteriors.