Bounds on boundary slopes for Montesinos knots

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This talk is based on our joint works appearing as [2], [3] and [4]. In the talk, we will give a number of bounds about boundary slopes of essential surfaces embedded in the exteriors of Montesinos knots in the 3-sphere. We will actually consider the denominators of boundary slopes, the differences between pairs of boundary slopes, and the diameters of the boundary slope sets for Montesinos knots. Our main tool to establish the bounds is the algorithm developed by A. Hatcher and U. Oertel in [1] which enumerates all boundary slopes for a given Montesinos knot.