In this talk we consider boundary slopes of essential surfaces properly immersed in hyperbolic knot complements in the 3-sphere. Here an immersed surface in a 3-manifold $M$ is said to be essential if it is $\pi_1$-injective, properly embedded near non-empty boundary, and cannot be properly homotoped into $\partial M$. There are plenty of such surfaces in hyperbolic knot complements, and are also the boundary slopes. See [3] for example and contrast the results with that for the embedded case in [2]. On the distances between two such boundary slopes, an upper bound was established in [1]. Similar bounds for embedded surfaces had been given in [5, 4].

In the talk a new bound on the distances between two such integral boundary slopes will be shown, which is much sharper than theirs. Also some reports on computer experiments will be given, which concern boundary slopes of embedded essential surfaces in Montesinos knot exteriors. These computer experiments were supported by S. Mizushima.

References