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Incorporating genus into the Heegaard Floer differential

Utilizing work of Hutchings and Kutluhan-Lee-Taubes, one can incorporate the genus of holomorphic curves into the Heegaard Floer differential of the Honda-Kazez-Matic description of the Heegaard Floer complex associated to an open book decomposition. We will describe how this can be used to define a version of the Ozsvath-Szabo contact invariant that is more sensitive to tightness and to Stein cobordisms. This is joint work with Cagatay Kutluhan, Gordana Matic and Andy Wand.