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An Integral Method to Evaluate Wall Heat Flux Suitable For Experimental Data ALIREZA EBADI, University of New Hampshire, FARAZ MEHDI, Texas Tech University, CHRISTOPHER WHITE, University of New Hampshire — An integral method to evaluate wall heat flux in turbulent boundary layers is presented. The method is mathematically exact and has the advantage of having no explicit streamwise gradient terms, thus making it amenable to experimental data. Using existing data sets, the method is shown to work in both zero- and adverse-pressure gradient boundary layers. The method is particularly useful for the latter case where Reynolds analogy does not hold and the wall heat flux must be measured directly.

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