Directed Study
High-T_c Superconductor

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1 Introduction

The process steps are:

a. Import data from csv file `0052`, `0053`, and `0054`.

b. Remove outlying y series 2σ away from mean value.

c. Normalize each spectrum with the sum of mean value.

d. Boxcar average filtered data with width = 10.

e. Calculate gap size from filtered data, with the fourth derivative of the seventh degree polynomial fit of each spectrum, assuming the peak is at 0 mV.

f. Visualize data.

2 Boxcar width: 10

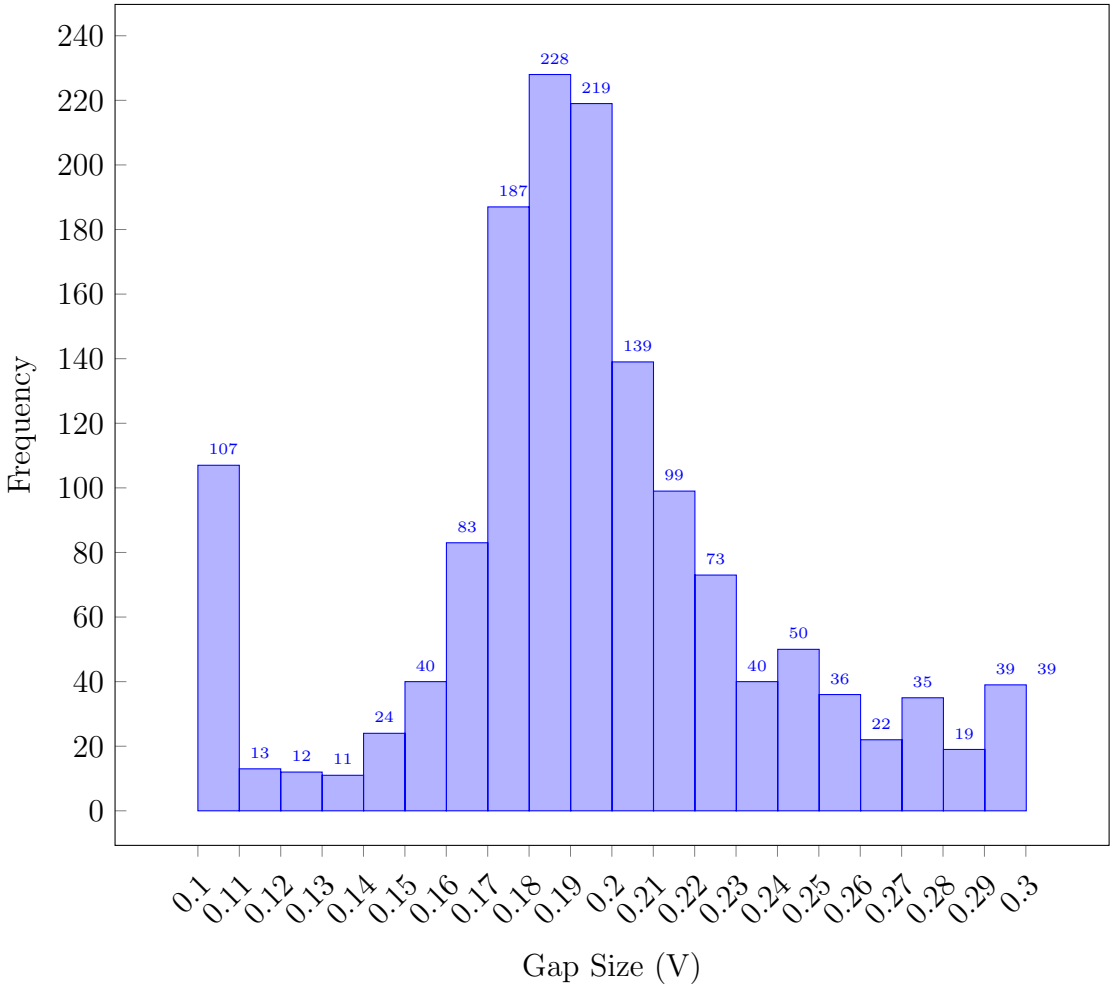

Figure 1: Histogram of gap sizes, 10-boxcared, data size 1476

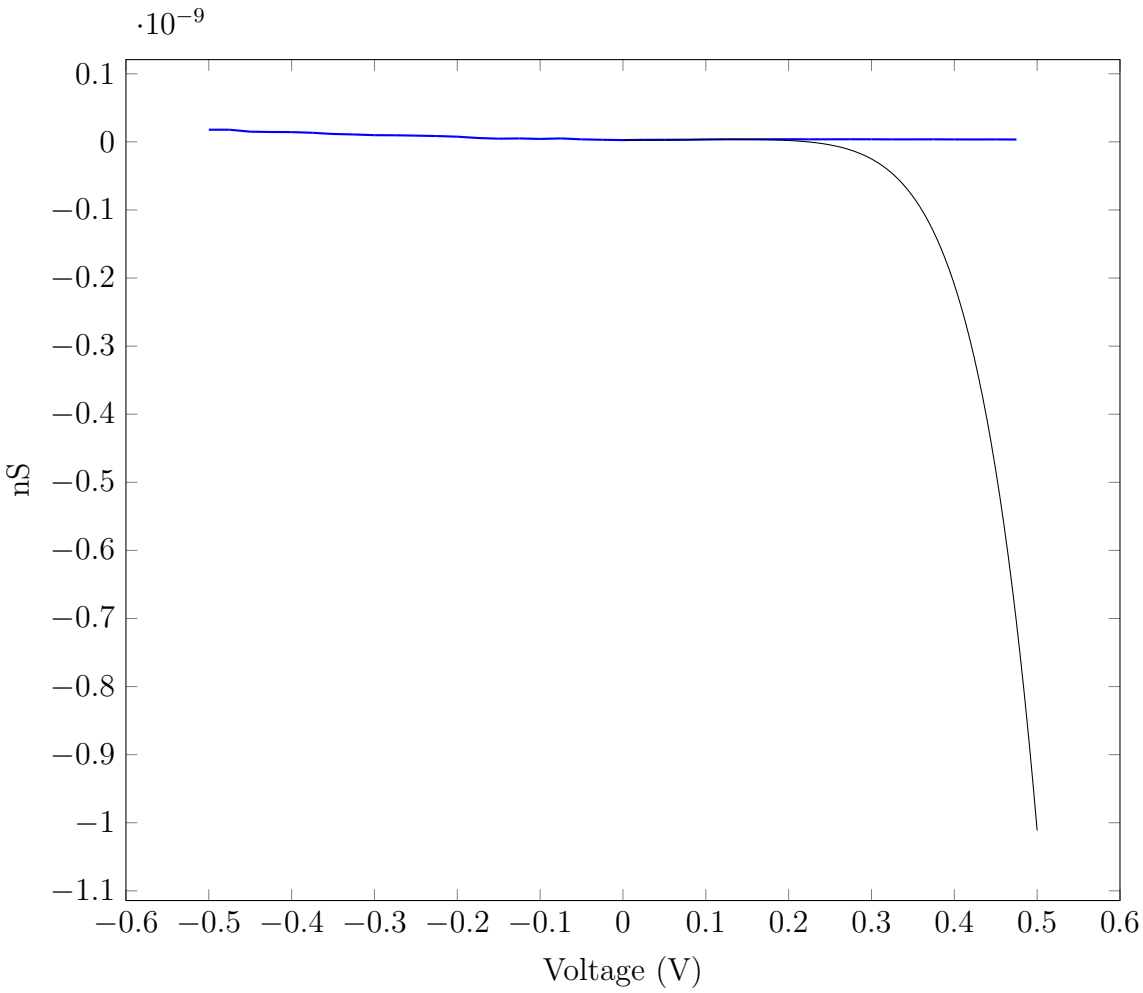

Figure 2: Sample Fit from 0052