Area Normalization

The raw areas with subtracted baseline for all temperatures can be seen in Fig.1. Depending on the available physical area on the Pd crystal, the scales of the measured areas at the different temperatures can be slightly different relative to each other, but will preserve their shapes. The variation in available physical area can be a result of the challenges that come with sensitive experimental setup and sample cleaning for exact reproducibility. To adjust the relative scale, we propose to use one temperature as reference (we chose Tref = 490 K), and make use of the saturation coverage provided in [cite]. Let us denote the raw area with A, the normalized area with An, and let SAT and REF indicate saturation and reference, respectively. We use the equation:

Where the subscript i indicates the temperature for which we are normalizing. Note that this equation is applied for every time point of the area. The resulting normalized area can be seen in Figure 2, and the individual plots of the normalized vs unnormalized areas for each temperature are presented in Figure 3.

A graph of a graph

Description automatically generated

Figure 1. Raw area for each temperature

A graph with colorful lines

Description automatically generated

Figure 2. Normalized Area for each temperature.

A group of graphs showing normalized

Description automatically generated

Figure 3. Individual plots of the areas against their normalized version. Note that the shape is preserved.

No 450K version

A graph of a graph

Description automatically generatedA graph with colorful lines and numbers

Description automatically generatedA group of graphs showing normalized

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