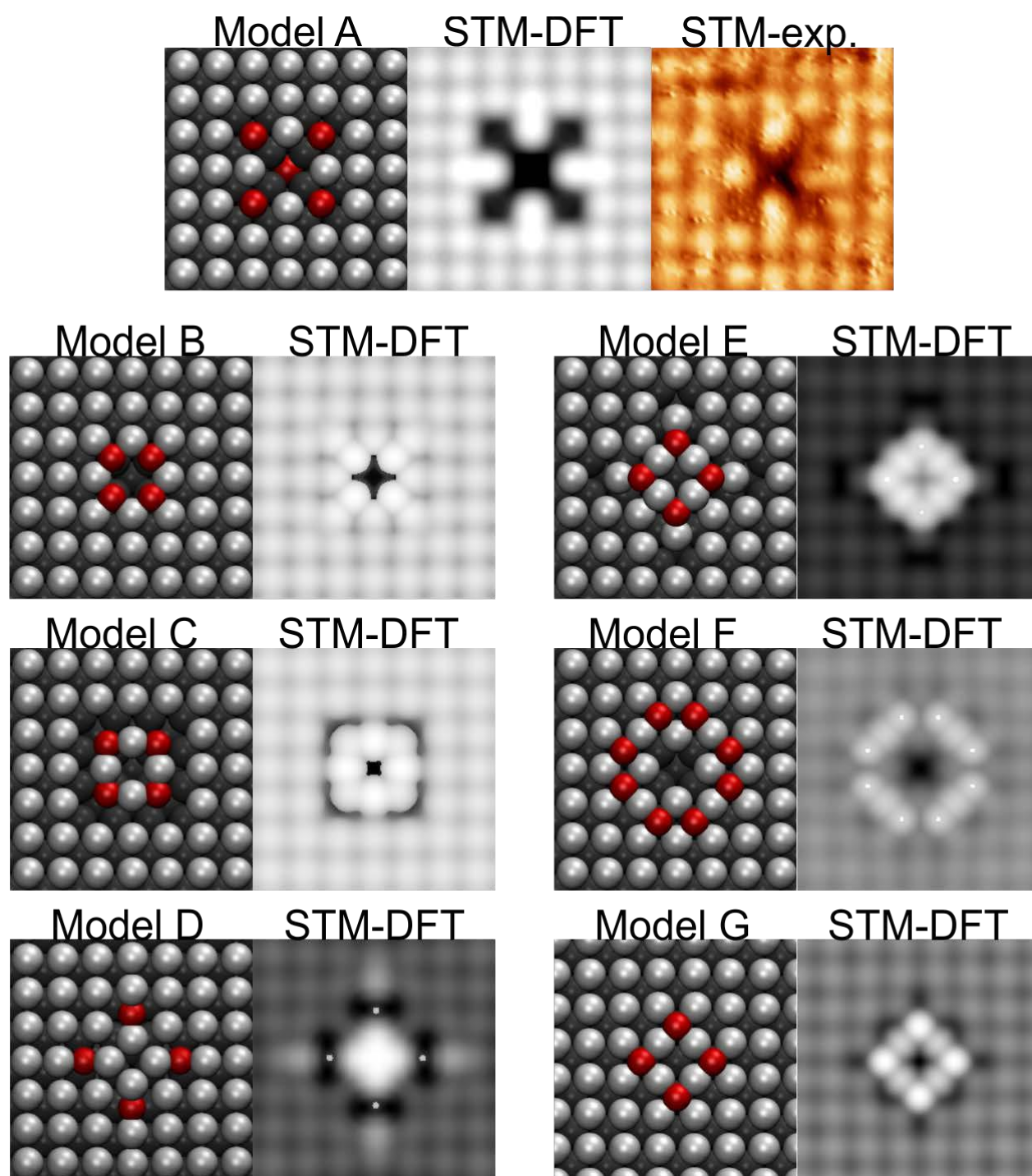


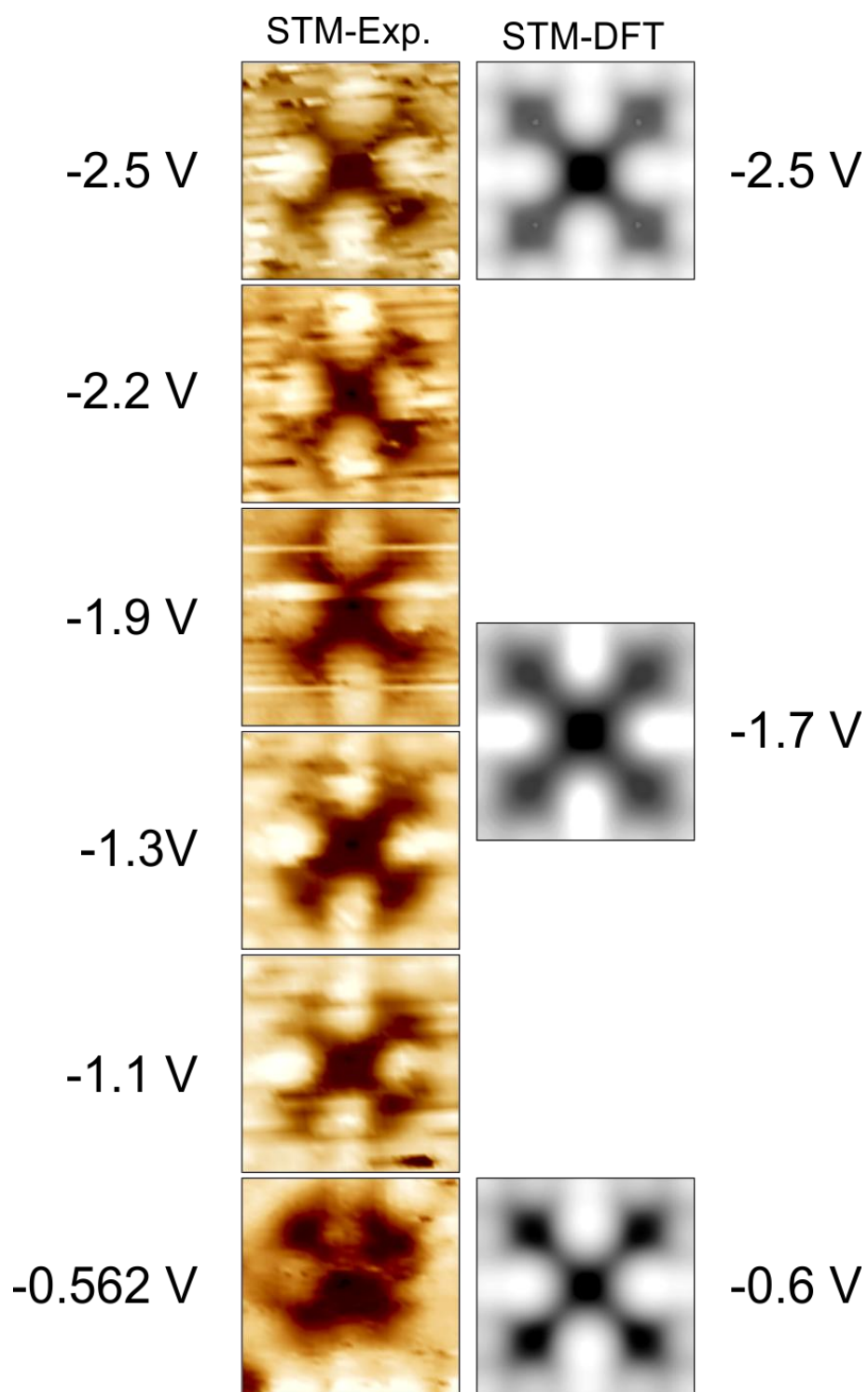
# Initial stage of the O<sub>2</sub> adsorption on Ag(100): vacancies and local oxide formation

B. V. Andryushechkin, T. V. Pavlova, V. M. Shevlyuga, A.V. Nartova, and V.I. Bukhtiyarov

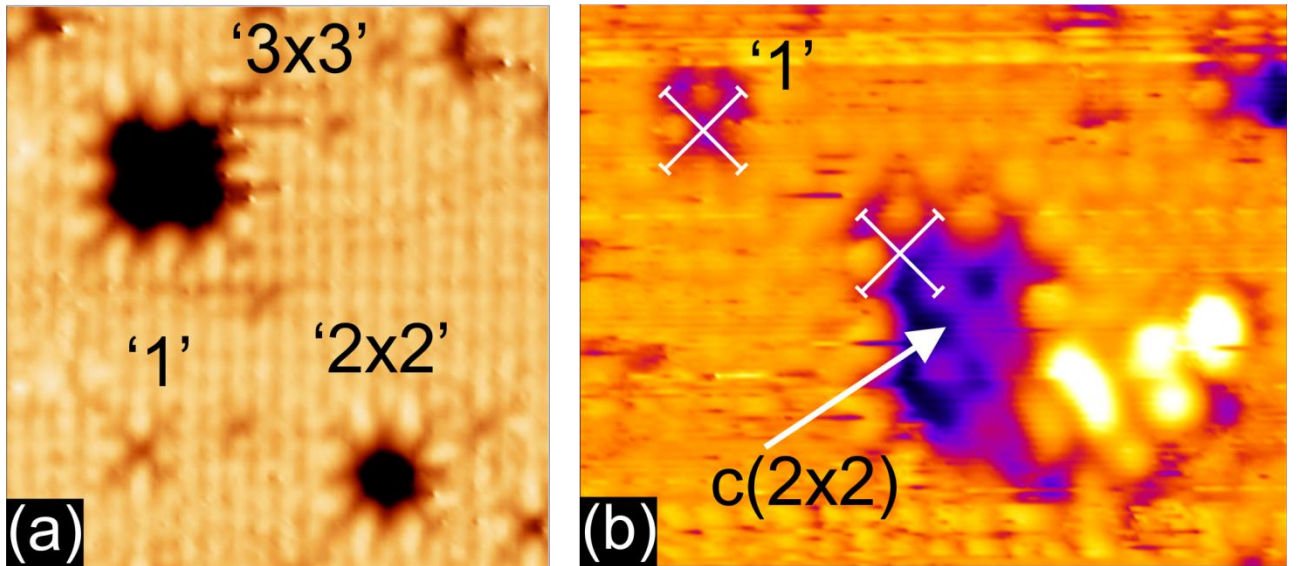
## Supplementary information



**Figure 1S.** DFT modeling of the large cross. The better correspondence is achieved for model A. Six other test models and their corresponding theoretical STM images calculated for  $U_s = -2$  V are presented for comparison.



**Figure 2S. Bias voltage dependence of experimental and simulated STM images of cross ‘1’.**



**Figure 3S.** (a) STM image ( $63 \times 65 \text{ \AA}^2$ , 77 K,  $U_s = -1121 \text{ mV}$ ,  $I_t = 0.5 \text{ nA}$ ) showing the '2x2' and '3x3' features formed by merging the '1' features. (b) STM image ( $53 \times 42 \text{ \AA}^2$ , 77 K,  $U_s = -600 \text{ mV}$ ,  $I_t = 0.5 \text{ nA}$ ) showing the c(2x2) periodicity at the center of the merged feature. The white cross corresponds to the single object '1'.