

Table of Contents

1 GOALS OF THE THESIS	5
2 PRINCIPLE OF THE METHOD AND ITS PRESENT STATE	5
3 METHODS USED IN THE RESEARCH	7
4 MAIN RESULTS	9
4.1 Construction of an Apparatus	9
4.2 Tests of the Various Background Subtraction Methods	9
4.3 Limits of the Kinematic Analysis	11
4.4 Surface Structures Determined by Full Dynamical Analysis	13
4.4.1 <i>The Structure and Dynamics of the Al(110) Surface</i>	13
4.4.2 <i>Alkali Metal Adsorption on Al(110) Surface</i>	14
4.4.3 <i>Surface Reconstruction and Relaxation of Al(110)-c(2×2)-Na Structure</i>	15
4.4.4 <i>Determination of Al(110)-(4×1)-Na Structure</i>	18
4.4.5 <i>Structure of Al(110)-c(2×2)-Li and Formation of Surface Alloys</i>	21
5 SUMMARY	22
6 ZÁVĚR	24
7 AUTHOR'S PUBLICATIONS	25
8 REFERENCES	26
9 CURRICULUM VITAE	27