|  |  |  |  |
| --- | --- | --- | --- |
| **Title:** | Investigation of c(2×2) phase of Pb and Bi coadsorption on Cu(001) by low energy electron diffraction diffraction | | |
| **Author(s) Name:** | M. Kabiruzzaman, R. Ahmed, T. Nakagawa, and S. Mizuno | | |
| **Contact Email(s):** | kabiruzzaman@aiub.edu | | |
| **Published Journal Name:** | EVERGREEN Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy | | |
| **Type of Publication:** | Journal | | |
| **Volume:** | 04 | Issue | 1 |
| **Publisher:** | Kyushu University | | |
| **Publication Date:** | March 31, 2017 | | |
| **ISSN:** | 2189-0420 | | |
| **DOI:** | https://doi.org/10.5109/1808306 | | |
| **URL:** | https://kyushu-u.elsevierpure.com/en/publications/investigation-ofsubc22sub-phase-of-pb-and-bi-coadsorption-on-cu00 | | |
| **Other Related Info.:** | Page 10-15 | | |
|  | | | |

|  |  |
| --- | --- |
| **Abstract:** |  |
| The surface phases formed by coadsorption of Pb and Bi on a single crystal Cu(001) surface have been investigated using low energy electron diffraction (LEED). The complete phase chart is developed after the coadsorption of Pb and Bi with various coverages. Some notable phases obtained are (1×1), c(2×2), c(4×4) and c(9√2×√2). In this study, we have determined the c(2×2) phase. For individual adsorption of both Pb and Bi, we reconfirmed the c(2×2) structure with more accuracy by a tensor LEED analysis that they both occupy the four fold hollow sites. By comparing the structural parameters of coadsorption and individual adsorption, we conclude that the c(2×2) phase of coadsorption is the mixture of separate domains of the c(2×2) phases of Pb and Bi. This study opens a new window of further research into the surface phase determination of coadsorption of Pb and Bi on Cu(001). | |