1056-78-708   **Xueru Bai*** (`bxr@ieee.org`), National Key lab. for radar signal processing, Xidian University, taibai road, No.2, and **Mengdao Xing**, **Feng Zhou** and **Zheng Bao** (`zhbao@mail.xidian.edu.cn`), National Key lab. for radar signal processing, Xidian University, taibai road, No.2, Xi'an, Shaanxi 710071. *Study on ISAR imaging of steadily moving targets with large observation angles.* Preliminary report.

In traditional ISAR imaging, we need to increase the target observation angle to obtain a finer azimuth resolution. However, this in turn will induce range and Doppler curve in the range and azimuth domain respectively. This paper first analysis the available imaging algorithms such as the range-Doppler (RD), the Keystone algorithm, and PFA (Polar Format Algorithm), and deduce their requirements on the observation angles respectively. Then, the complex-valued back-projection algorithm (CBP) is introduced for image formation of a wider observation angle. Finally, imaging results of simulated and measured data are given to compare the performance of the algorithms introduced in this paper. (Received September 21, 2009)