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### Value Addition to Cartosat-I Imagery

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**Abstract.** In the sector of remote sensing applications, the use of stereo data is on the steady rise. An attempt is hereby made to develop a software suite specifically for exploitation of Cartosat-I data. A few algorithms to enhance the quality of basic Cartosat-I products will be presented. The algorithms heavily exploit the Rational Function Coefficients (RPCs) that are associated with the image. The algorithms include improving the geometric positioning through Bundle Block Adjustment and producing refined RPCs; generating portable stereo views using raw / refined RPCs autonomously; orthorectification and mosaicing; registering a monoscopic image rapidly with a single seed point. The outputs of these modules (including the refined RPCs) are in standard formats for further exploitation in 3rd party software. The design focus has been on minimizing the user-interaction and to customize heavily to suit the Indian context. The core libraries are in C/C++ and some of the applications come with user-friendly GUI. Further customization to suit a specific workflow is feasible as the requisite photogrammetric tools are in place and are continuously upgraded. The paper discusses the algorithms and the design considerations of developing the tools. The value-added products so produced using these tools will also be presented.

[Conference Paper](#) (PDF, 809 KB)

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