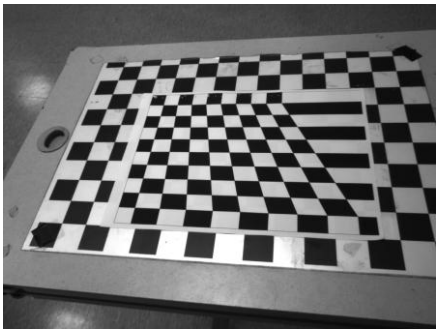

Fig. 4: One real image.

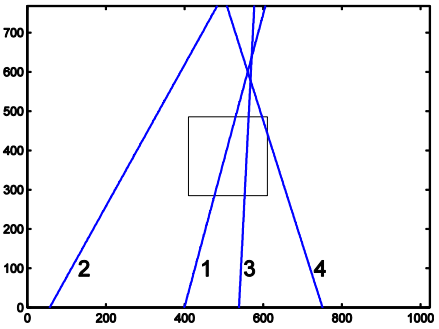

Fig. 5: Centre Lines computed from 4 PoC and the square region of the principal point.

Table 1: Range of the focal length computed from three PoC.

PoC	1	3	4
Focal length	0-1223	0-296	0-576

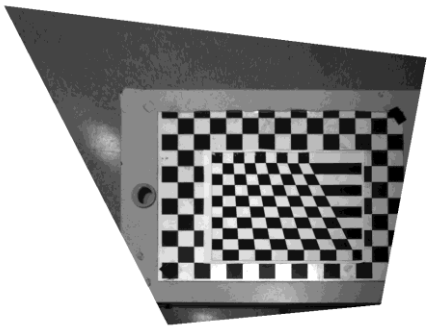

Fig. 6: The rectified image.

5. Conclusions

In this paper we depict a deformed chessboard pattern to automatically accomplish camera calibration. Compared to two state-of-the-art calibration toolboxes, our method overcomes their shortcomings by recognizing the four extreme corners which form a right-angled trapezoid. Our method will provide the great convenience in metric rectification, multi-camera calibration, etc. The next work is to do more specific experiments to verify the precision and the robustness of the proposed algorithm.

6. References

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