

Corrections to “Synthesizing Diverse and Physically Stable Grasps with Arbitrary Hand Structures using Differentiable Force Closure Estimator”

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Eq. (6) in [1] was missing a negative sign on λ_0 , and the subsequent paragraph made a false explanation of λ_0 . The corrected version is shown below:

$$FC(x, O) = \lambda_0^-(GG' - \epsilon I_{6 \times 6}) + \|Gc\|_2 + w \sum_{x_i \in x} d(x_i, O), \quad (1)$$

where $\lambda_0^-(\cdot) = \text{ReLU}(-\lambda_0(\cdot))$ gives the negative part of the smallest eigenvalue of a matrix, and $d(x, O)$ returns the distance from point x to the surface of object O . The scalar w controls the weight of the distance term. By minimizing the three terms, we are looking for $\{x_i\}$ that satisfies the three constraints in Eq. (5), respectively.

REFERENCES

- [1] T. Liu, Z. Liu, Z. Jiao, Y. Zhu, and S.-C. Zhu, “Synthesizing diverse and physically stable grasps with arbitrary hand structures using differentiable force closure estimator,” *IEEE Robotics and Automation Letters*, vol. 7, no. 1, pp. 470–477, 2021.

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