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# Approximation of Spherical Convex Bodies of Constant Width $\pi/2$

Let $\mathbb{S}^2$ be the unit sphere in $\mathbb{R}^3$ and let $C \subset \mathbb{S}^2$ be a spherical convex body of constant width $\tau$. It is known that
(i) if $\tau < \pi/2$ then for any $\varepsilon > 0$ there exists a spherical convex body $C_\varepsilon$ of constant width $\tau$ whose boundary consists only of arcs of circles of radius $\tau$ such that the Hausdorff distance between $C$ and $C_\varepsilon$ is at most $\varepsilon$;
(ii) if $\tau > \pi/2$ then for any $\varepsilon > 0$ there exists a spherical convex body $C_\varepsilon$ of constant width $\tau$ whose boundary consists only of arcs of circles of radius $\tau - \frac{\pi}{2}$ and great circle arcs such that the Hausdorff distance between $C$ and $C_\varepsilon$ is at most $\varepsilon$.
In this paper, we present an approximation of the remaining case $\tau = \pi/2$, that is, if $\tau = \pi/2$ then for any $\varepsilon > 0$ there exists a spherical polygon $\mathcal{P}_\varepsilon$ of constant width $\pi/2$ such that the Hausdorff distance between $C$ and $\mathcal{P}_\varepsilon$ is at most $\varepsilon$.

**Keywords**: Constant width, approximation, spherical polytgon, Hausdorff distance.

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