Supporting Information

Borrelli et al. 10.1073/pnas.1118478109

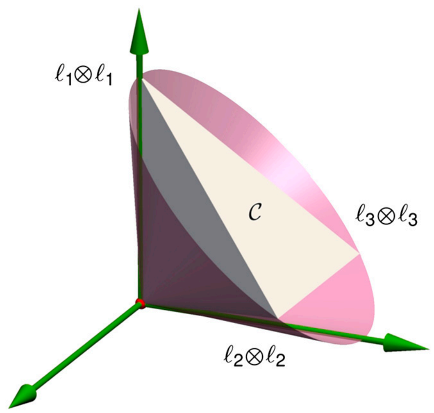

Fig. S1. The space of symmetric bilinear forms is identified with $\mathbb{R}^3$ via the basis $e_1^* \otimes e_2^* + e_2^* \otimes e_1^*$, $e_2^* \otimes e_2^*$, $e_1^* \otimes e_1^*$. The cone $\mathscr{C}$ (gray-white) lies inside the cone of inner products (purple).

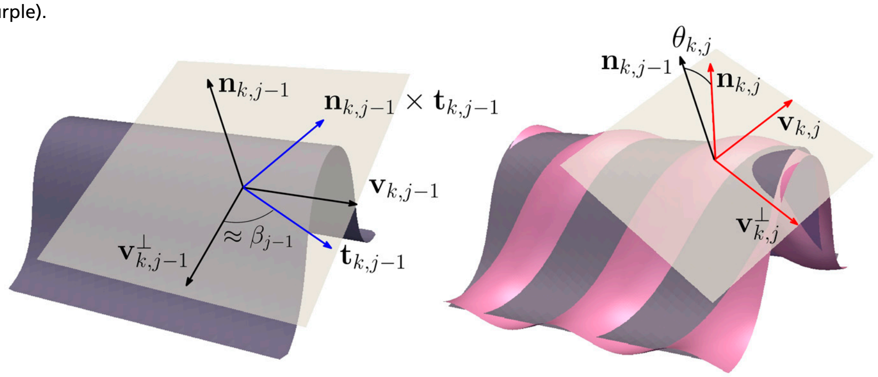

Fig. S2. The corrugation matrix carries the frame $(\mathbf{v}^{\perp}_{k,j-1}, \mathbf{v}_{k,j-1}, \mathbf{n}_{k,j-1})$ to $(\mathbf{v}^{\perp}_{k,j}, \mathbf{v}_{k,j}, \mathbf{n}_{k,j})$. The images of the maps $f_{k,j-1}$ and $f_{k,j}$ are pictured by the *Left* gray and *Right* pink surfaces, respectively. Note that $\mathbf{v}_{k,j} \approx \mathbf{t}_{k,j-1} \times \mathbf{n}_{k,j-1}$ so that the intermediary frame $(\mathbf{t}_{k,j-1}, \mathbf{n}_{k,j-1} \times \mathbf{t}_{k,j-1}, \mathbf{n}_{k,j-1})$ is obtained by rotating $(\mathbf{v}^{\perp}_{k,j-1}, \mathbf{v}_{k,j-1}, \mathbf{n}_{k,j-1})$ about $\mathbf{n}_{k,j-1}$ by an angle approximately β_{j-1}. Then, the frame $(\mathbf{v}^{\perp}_{k,j}, \mathbf{v}_{k,j}, \mathbf{n}_{k,j})$ is approximately the rotation of the frame $(\mathbf{t}_{k,j-1}, \mathbf{n}_{k,j-1} \times \mathbf{t}_{k,j-1}, \mathbf{n}_{k,j-1})$ about $\mathbf{v}_{k,j}$ by the angle $\theta_{k,j}$.