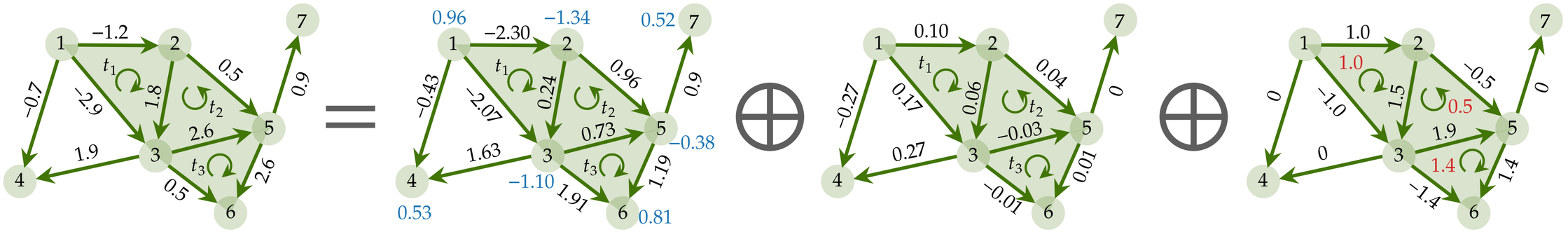
Overview

Hodge decomposition

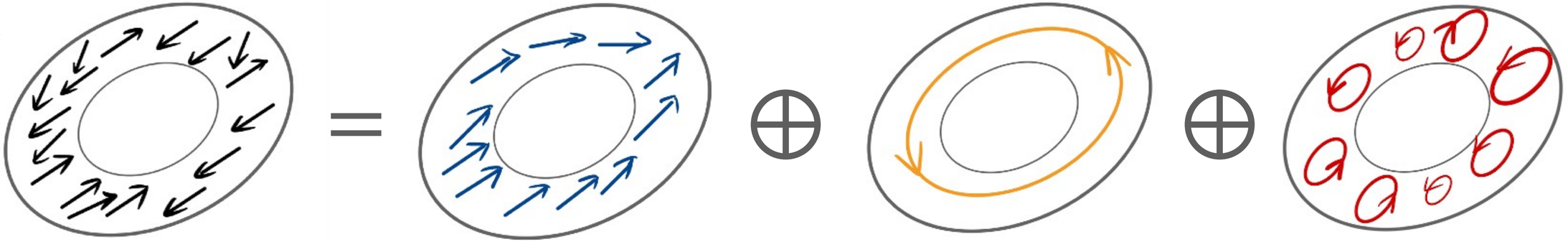


$$\mathbb{R}^{N_1} = \mathrm{im}(\mathbf{B}_1^\top) \oplus \ker(\mathbf{L}_1) \oplus \mathrm{im}(\mathbf{B}_2)$$

$$\mathbf{f}_1 = \mathbf{f}_G + \mathbf{f}_H + \mathbf{f}_C$$

Overview

Hodge decomposition



Edge flow = Gradient flow (Curl-free, irrotational) + Harmonic flow (Div- and curl-free) + Curl flow (Div-free, solenoidal)