Formula

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1 axis mode

1.1

$$e_i \xrightarrow{GT} \tilde{e_i} \xrightarrow{\pi_2} (x_i, y_i)$$

1.2

$$\begin{array}{ccccc} e_i & \xrightarrow{GT} & \tilde{e_i} & \xrightarrow{\pi_2} & (x_i, y_i) \\ \downarrow{\scriptstyle id} & & & & \downarrow{\scriptstyle \Delta} \\ e_i & \overset{GT^{(new)}}{\dashrightarrow} & \tilde{e_i}^{(new)} & \xrightarrow{\pi_2} & (x_i^{(new)}, y_i^{(new)}) \end{array}$$

1.3

$$\begin{array}{ccccc} e_i & \xrightarrow{GT} & \tilde{e_i} & \xrightarrow{\pi_2} & (x_i, y_i) \\ & & \downarrow{\scriptstyle \tilde{\Delta}} & & \downarrow{\scriptstyle \Delta} \\ \downarrow{\scriptstyle id} & & \tilde{e_i} + (dx, dy, 0, 0, \cdots) & \xrightarrow{\pi_2} & (x_i + dx, y_i + dy) \\ & & \downarrow{\scriptstyle normalize} & & \vdots{\scriptstyle \approx} \\ e_i & \overset{GT^{(new)}}{\dashrightarrow} & \tilde{e_i}^{(new)} & \xrightarrow{\pi_2} & (x_i^{(new)}, y_i^{(new)}) \end{array}$$

2 data point mode: 2-subspace rotation

2.1