Nektar++ Future Topics

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NEKTAR++
SPECTRAL/HP ELEMENT FRAMEWORK

On the horizon ...

- Heterogeneous Architectures

  - Accelerator (GPUs / Intel Phi)

  - Hybrid Computing / co-Processing

- Basis Choices

  - Bernstein Polynomials (used in Graphics / CAD)

  - PolyFractinomials (solutions of fractional derivatives)
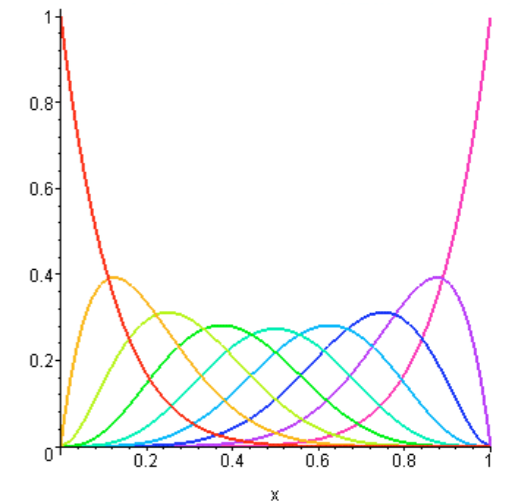
$$\frac{\partial^{\mu}}{dx^{\mu}}, \; \mu \in \mathbf{R}$$

On the horizon …

- Optimizations

  - Further "Collections" (balance between encapsulation and group operations)

  - Memory Management

- Applications (Solvers)

  - Fractional PDEs

  - Vector Operations (Solid Mechanics / Electromagnetics)?

  - Boundary Element Solver

Thanks for listening!