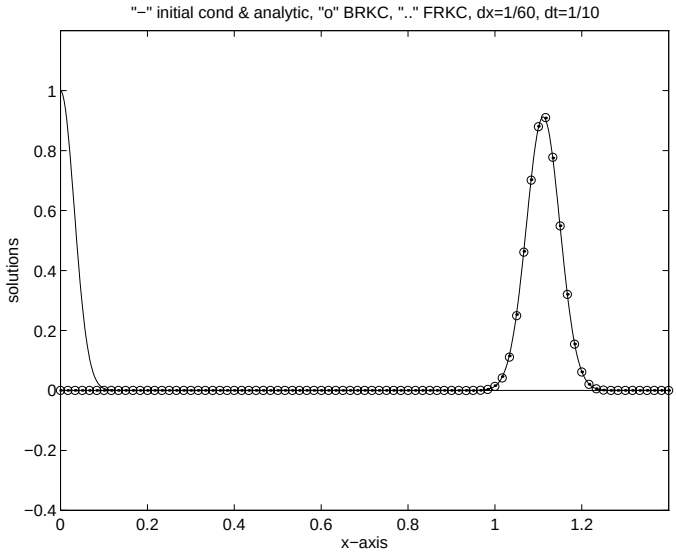


Fig I.1(a) Analytic, BRKC, & FRKC, $\Delta x = \frac{1}{60}$, $\Delta t = \frac{1}{10}$

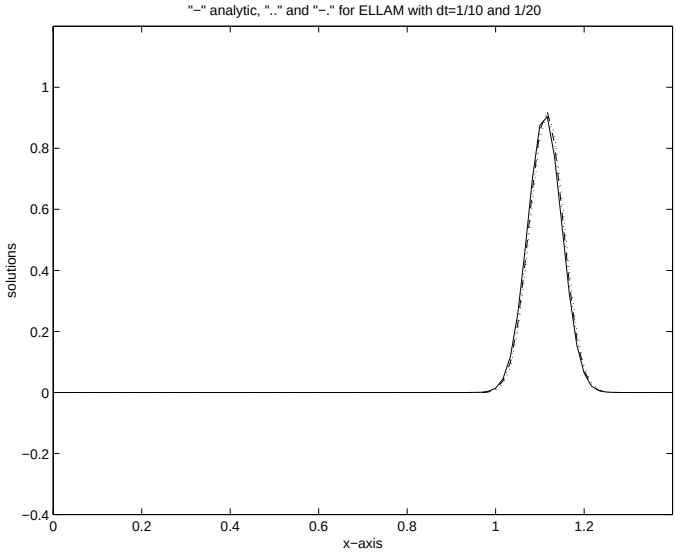
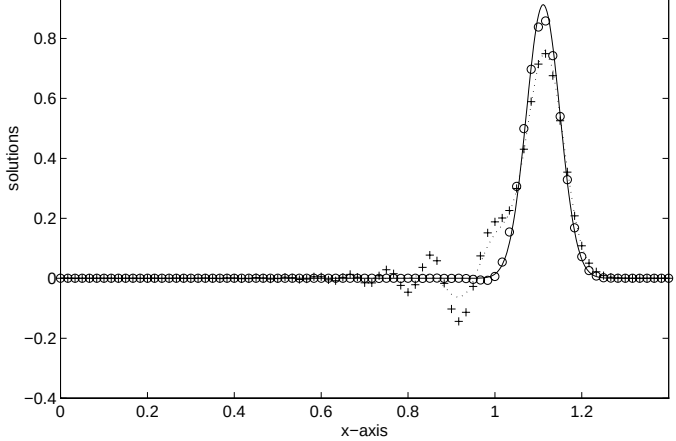
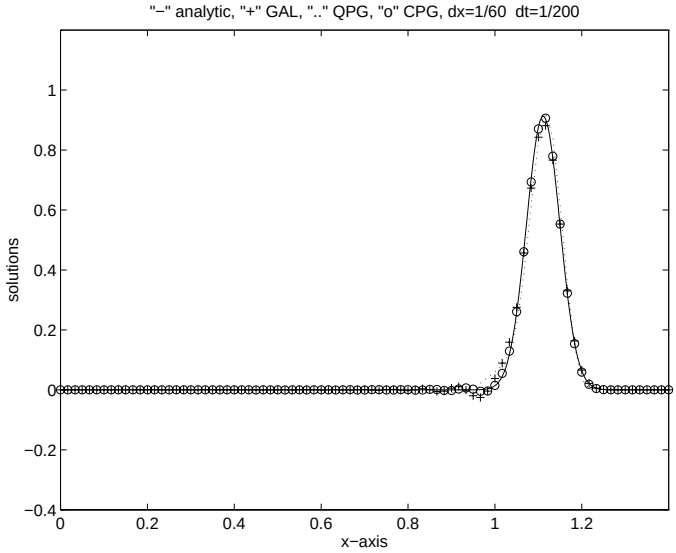


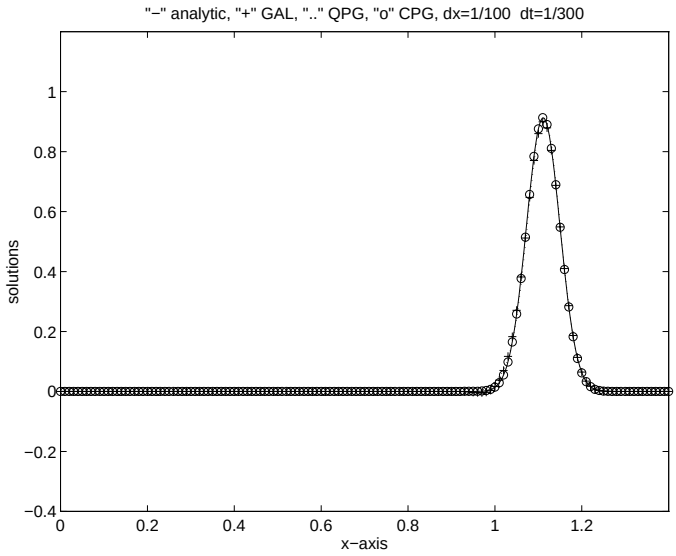
Fig I.1(b) Analytic & ELLAM, $\Delta x = \frac{1}{60}$ $\Delta t = \frac{1}{10}$ and $\frac{1}{20}$



(a) $\Delta x = \frac{1}{60}$, $\Delta t = \frac{1}{69}$,

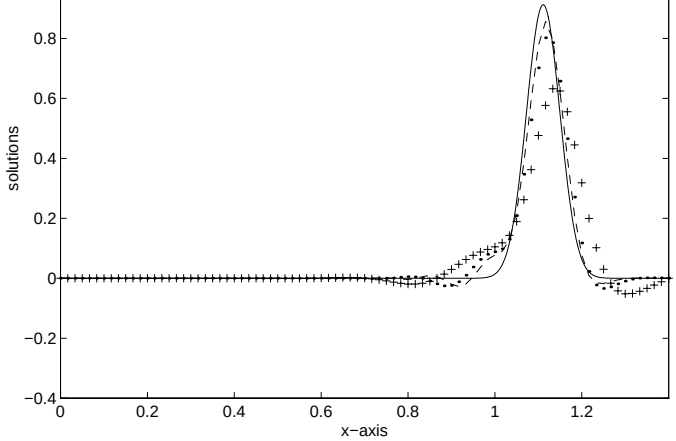


(b) $\Delta x = \frac{1}{60}$, $\Delta t = \frac{1}{200}$, and

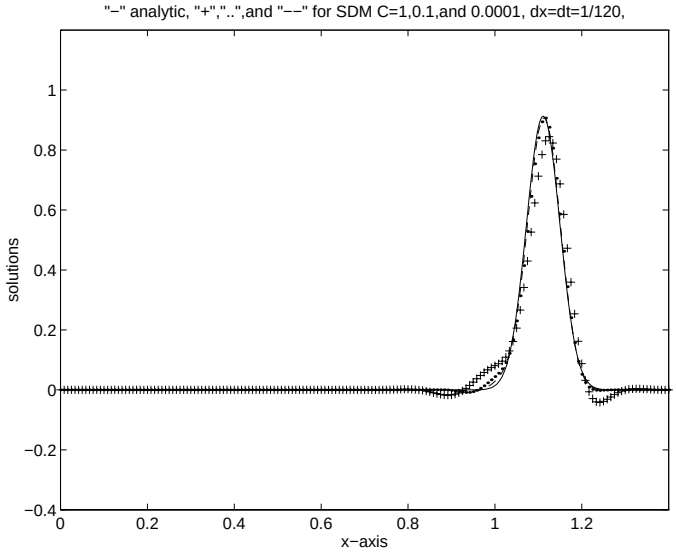


(c) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{300}$

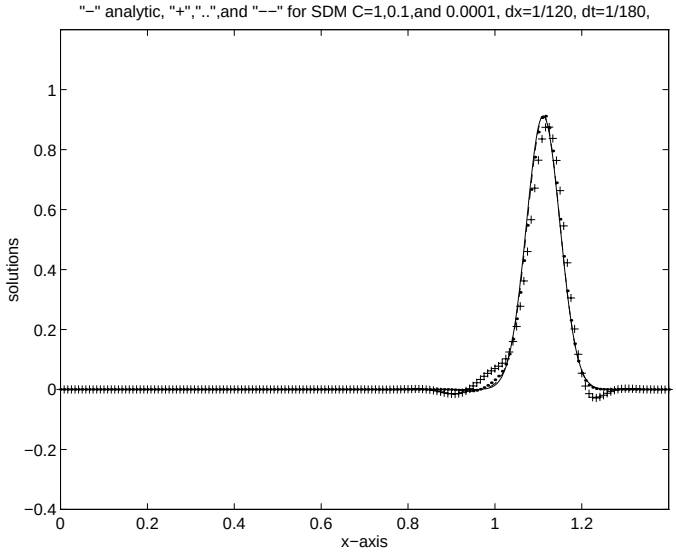
Fig I.2 Galerkin, quradratic and cubic Petrov-Galerkin



(a) $\Delta x = \Delta t = \frac{1}{60}$

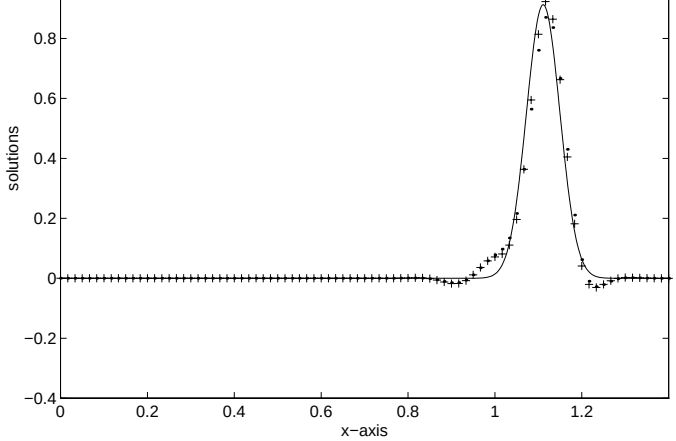


(b) $\Delta x = \Delta t = \frac{1}{120}$

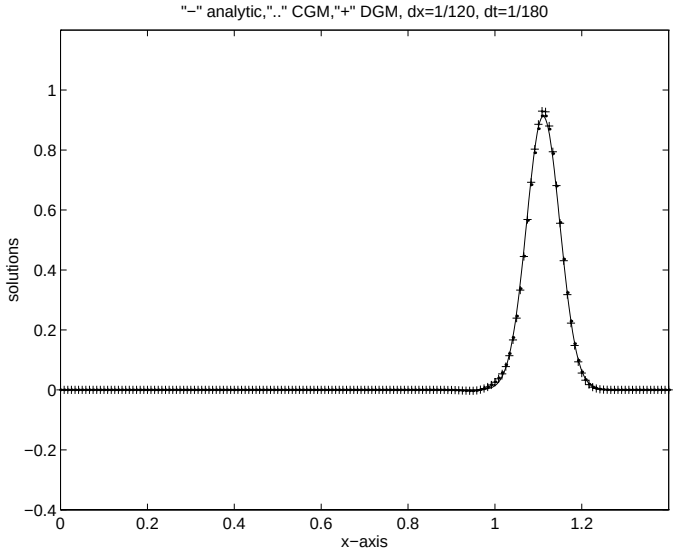


(c) $\Delta x = \frac{1}{120}$, $\Delta t = \frac{1}{180}$

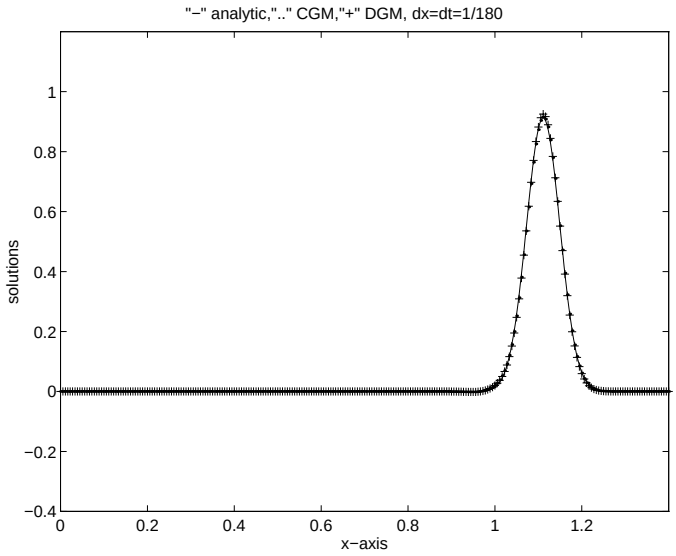
Fig I.3 Streamline Diffusion Method, $C = 1,\ 0.1,\ \&\ 0.0001$



(a) $\Delta x = \Delta t = \frac{1}{60}$

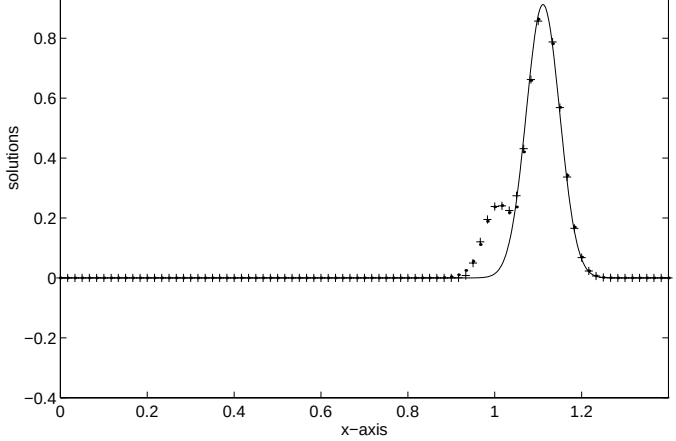


(b) $\Delta x = \frac{1}{120}$, $\Delta t = \frac{1}{180}$

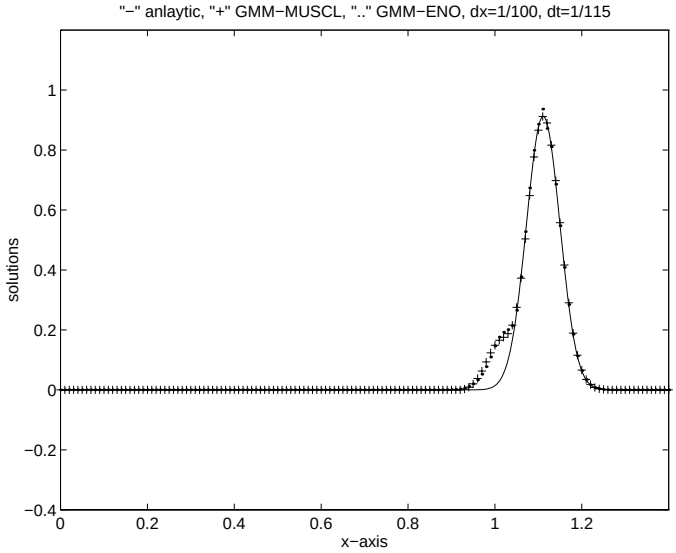


(c) $\Delta x = \Delta t = \frac{1}{180}$

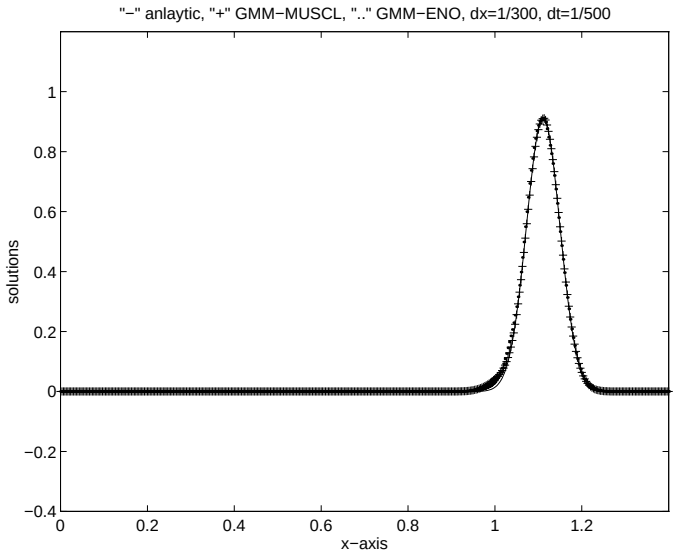
Fig I.4 Continuous and discontinuous Galerkin methods



(a) $\Delta x = \frac{1}{60}$, $\Delta t = \frac{1}{69}$



(b) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{115}$



(c) $\Delta x = \frac{1}{300}$, $\Delta t = \frac{1}{500}$

Fig I.5 High resolution methods MUSCL and ENO

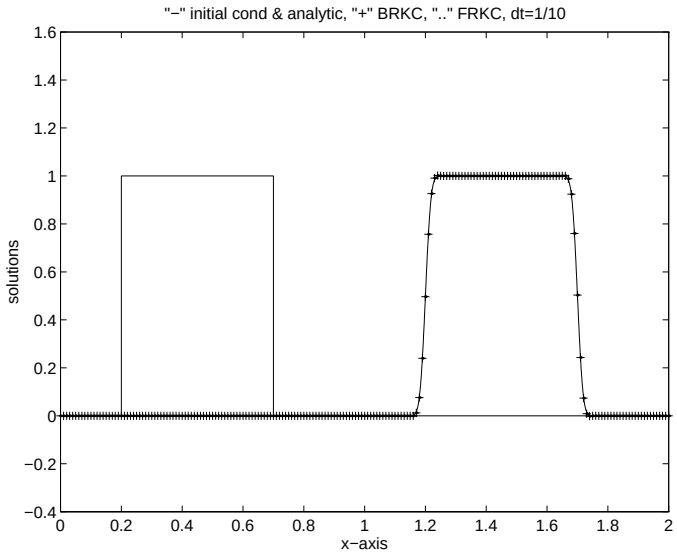
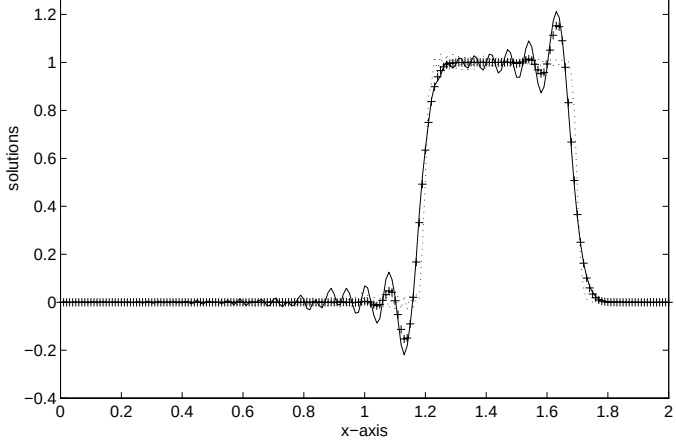
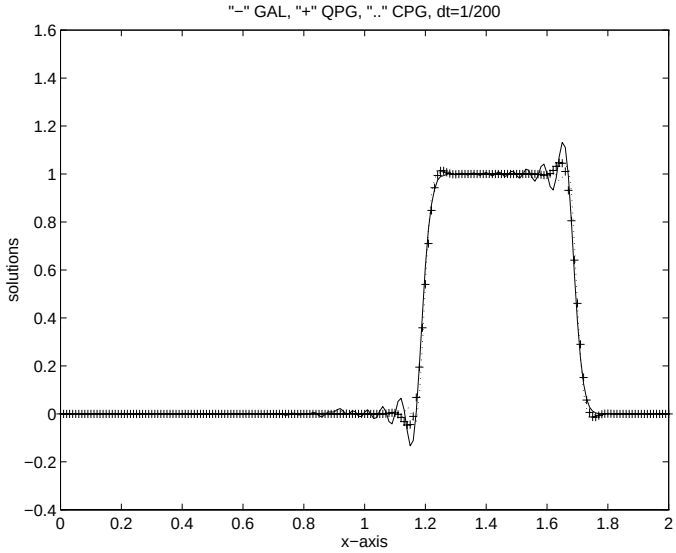


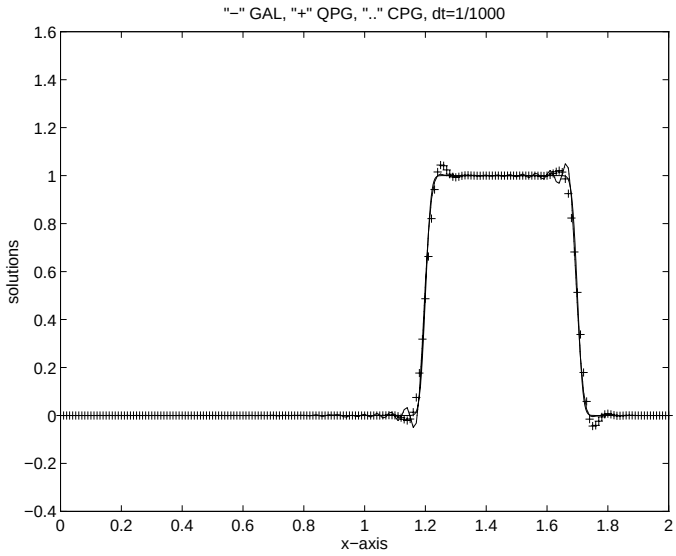
Fig II.1 BRKC, FRKC, & Anal, $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{10}$



(a) $\Delta x = \Delta t = \frac{1}{100}$

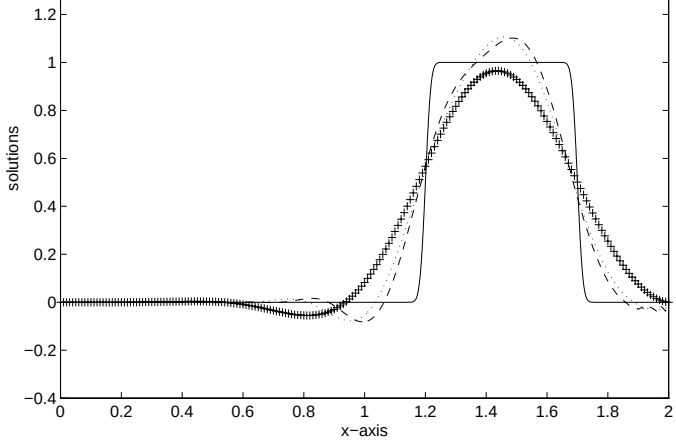


(b) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{200}$

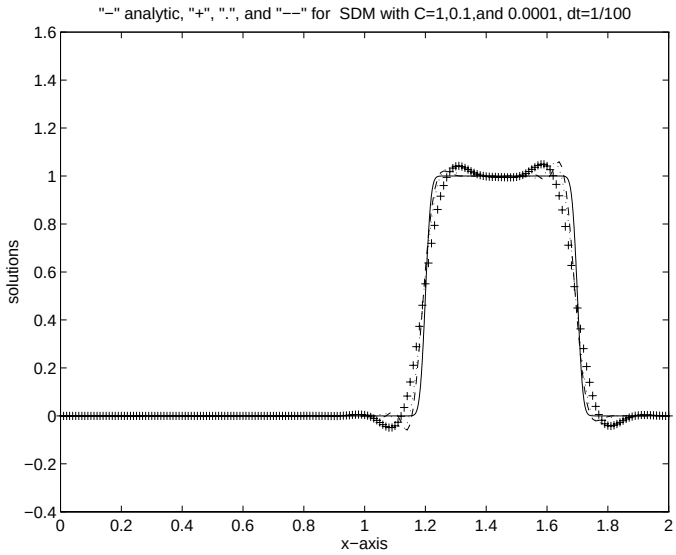


(c) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{1000}$

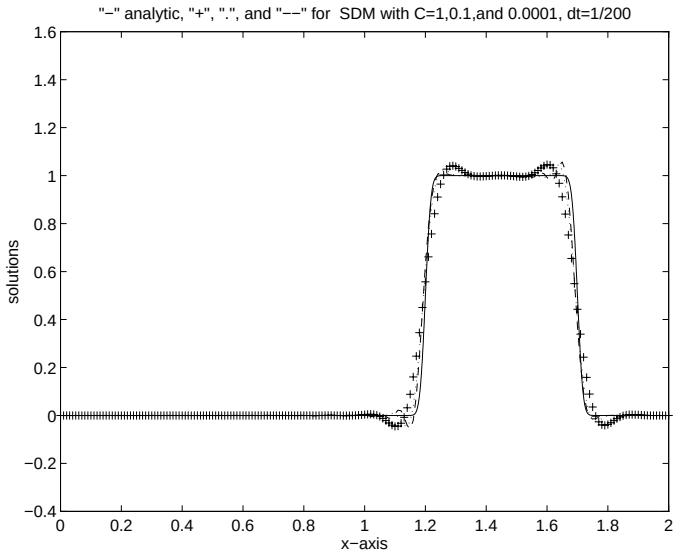
Fig II.2 Galerkin, quradratic and cubic Petrov-Galerkin



(a) $\Delta x = \frac{1}{100}$,$\Delta t = \frac{1}{10}$

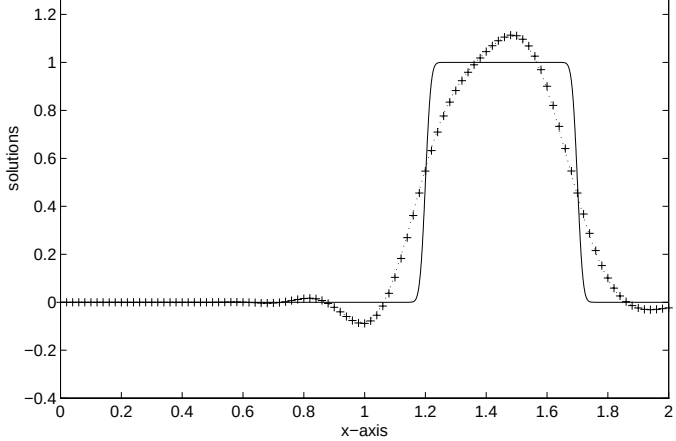


(b) $\Delta x = \Delta t = \frac{1}{100}$

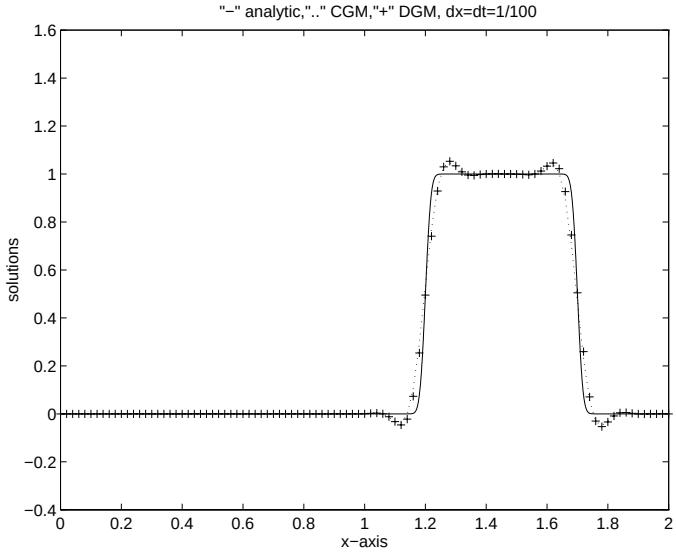


(c) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{200}$

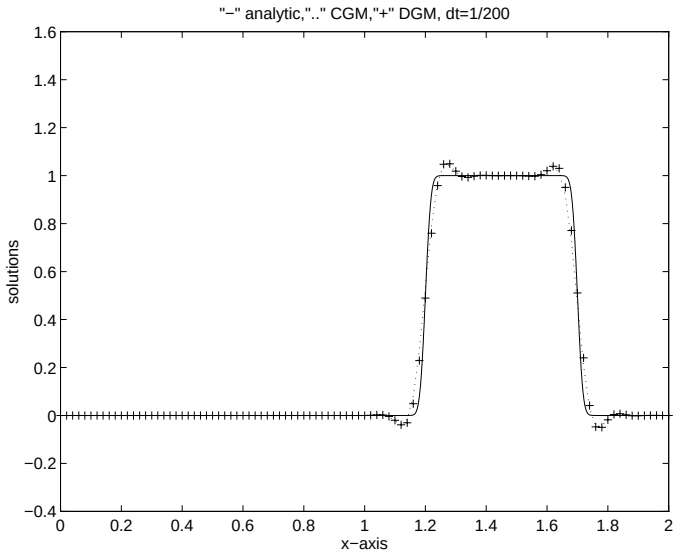
Fig II.3 Streamline Diffusion Method,$C = 1$, 0.1, & 0.0001



(a) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{10}$

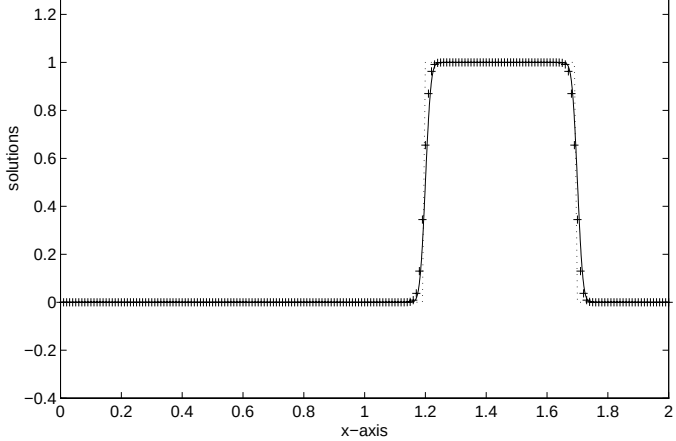


(b) $\Delta x = \Delta t = \frac{1}{100}$

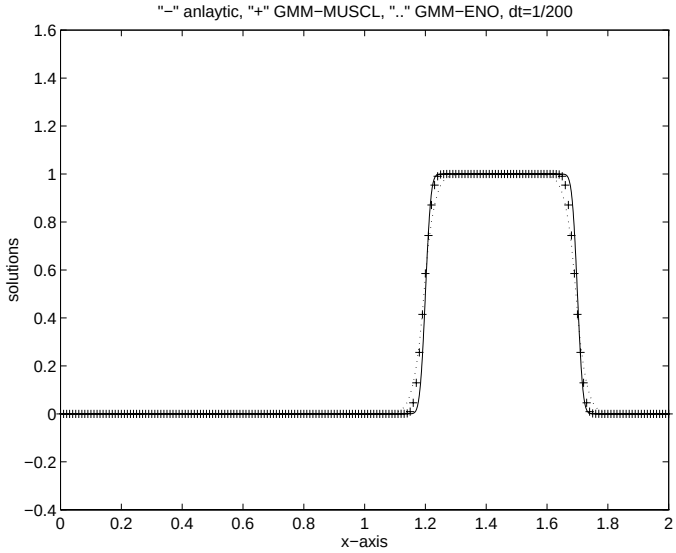


(c) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{200}$

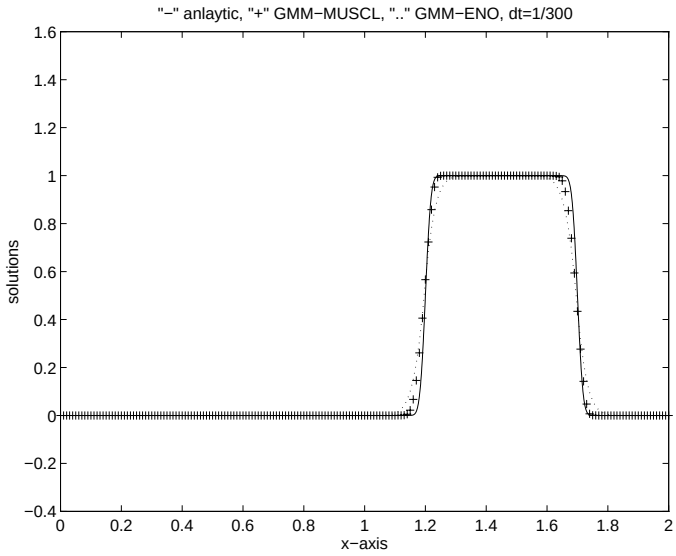
Fig II.4 Continuous and discontinuous Galerkin methods



(a) $\Delta x = \Delta t = \frac{1}{100}$



(b) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{200}$



(c) $\Delta x = \frac{1}{100}$, $\Delta t = \frac{1}{300}$

Fig II.5 High resolution methods MUSCL and ENO