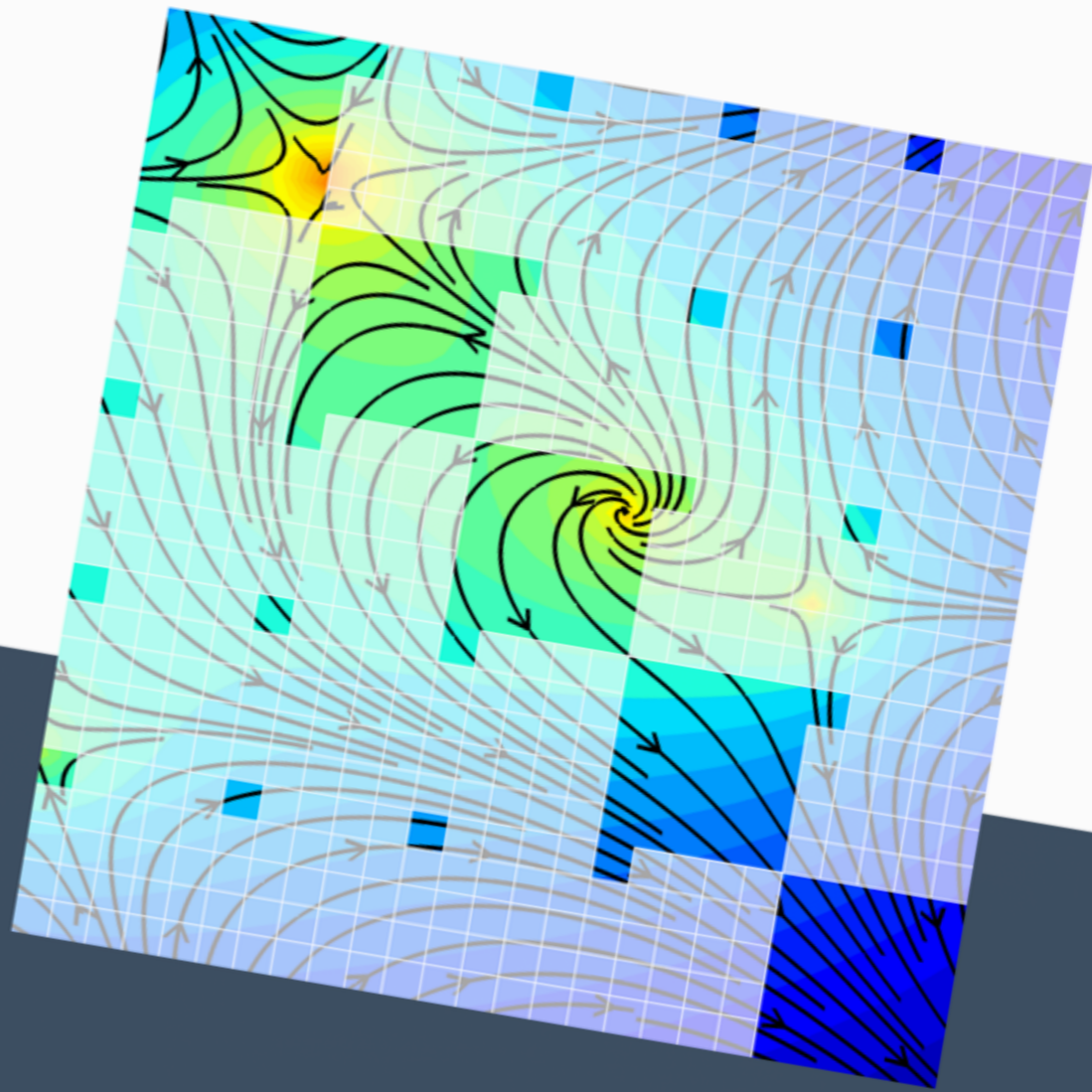
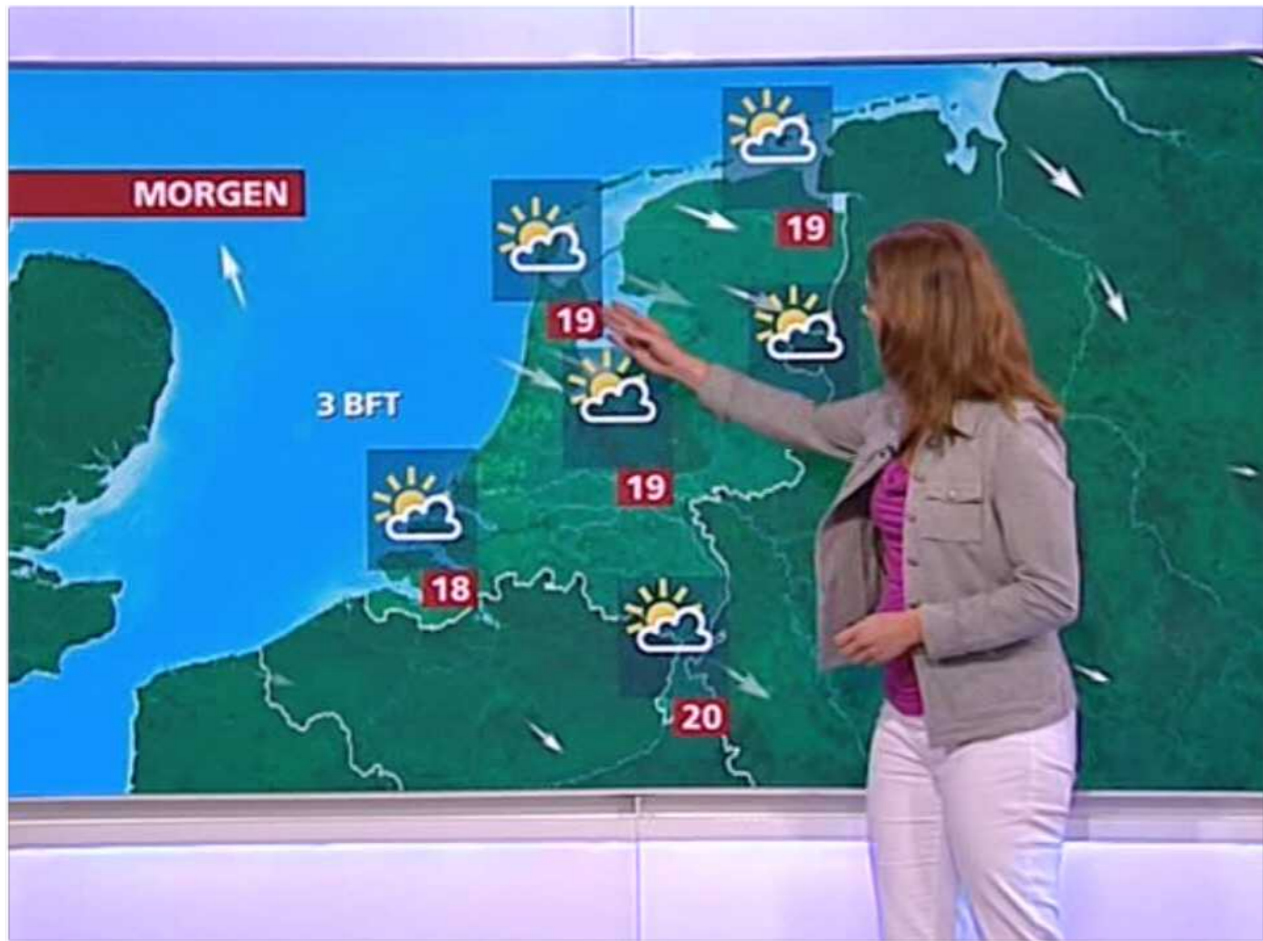


Discontinuous Galerkin Methods:

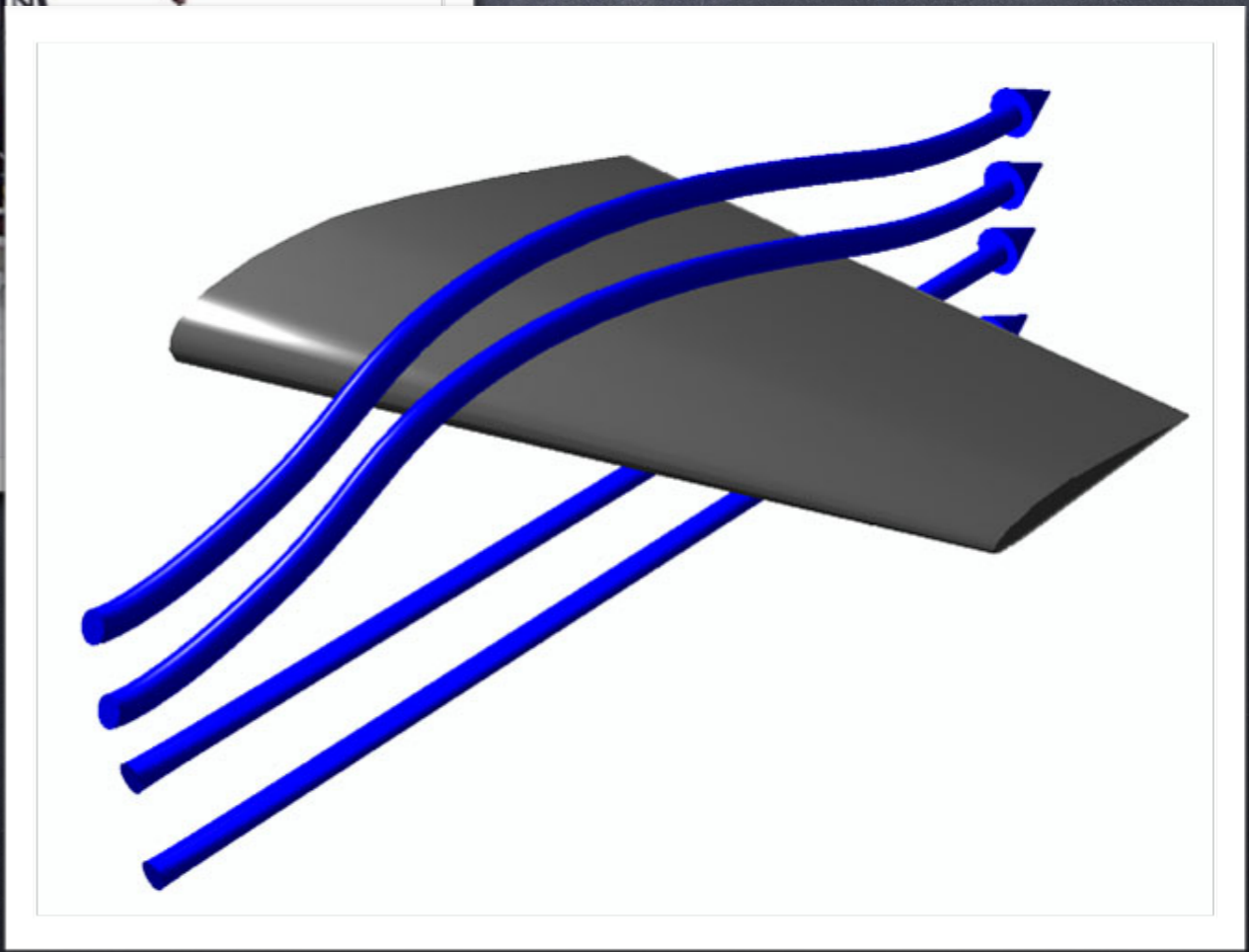
Linear Systems and Hidden Accuracy



Paulien van Slingerland





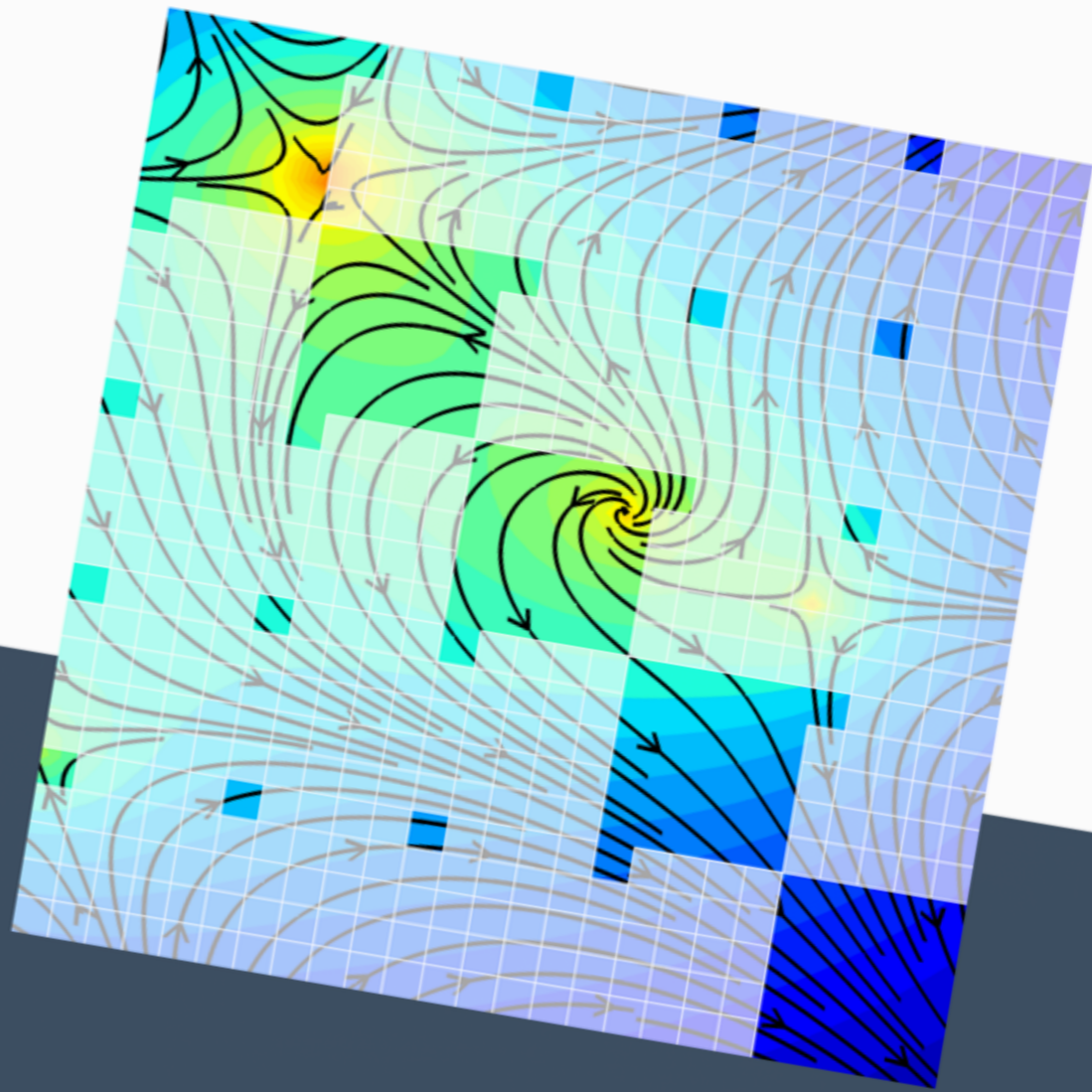


Te Moeilijk



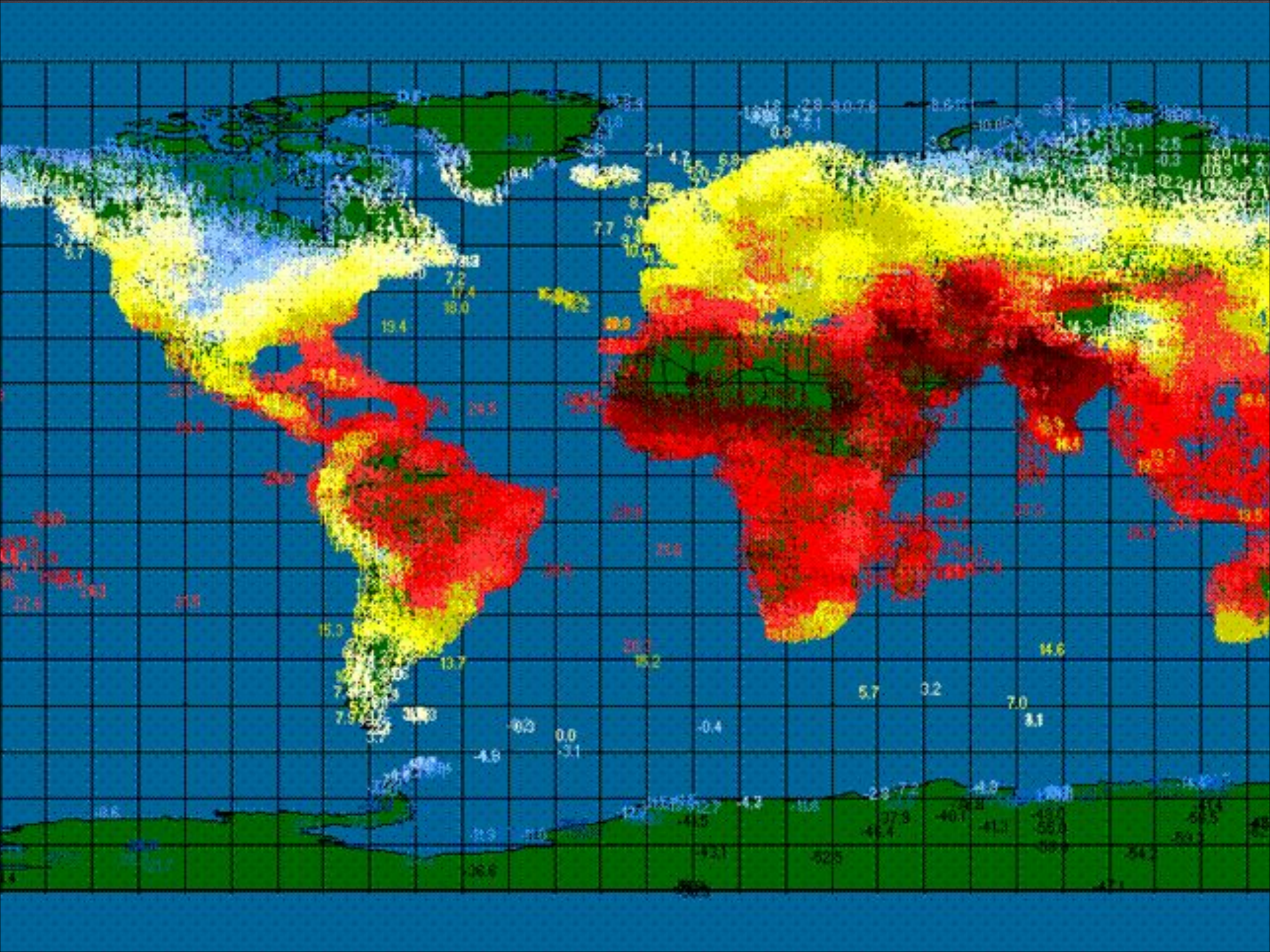
Discontinuous Galerkin Methods: Linear Systems and Hidden Accuracy

1
2
3



Paulien van Slingerland

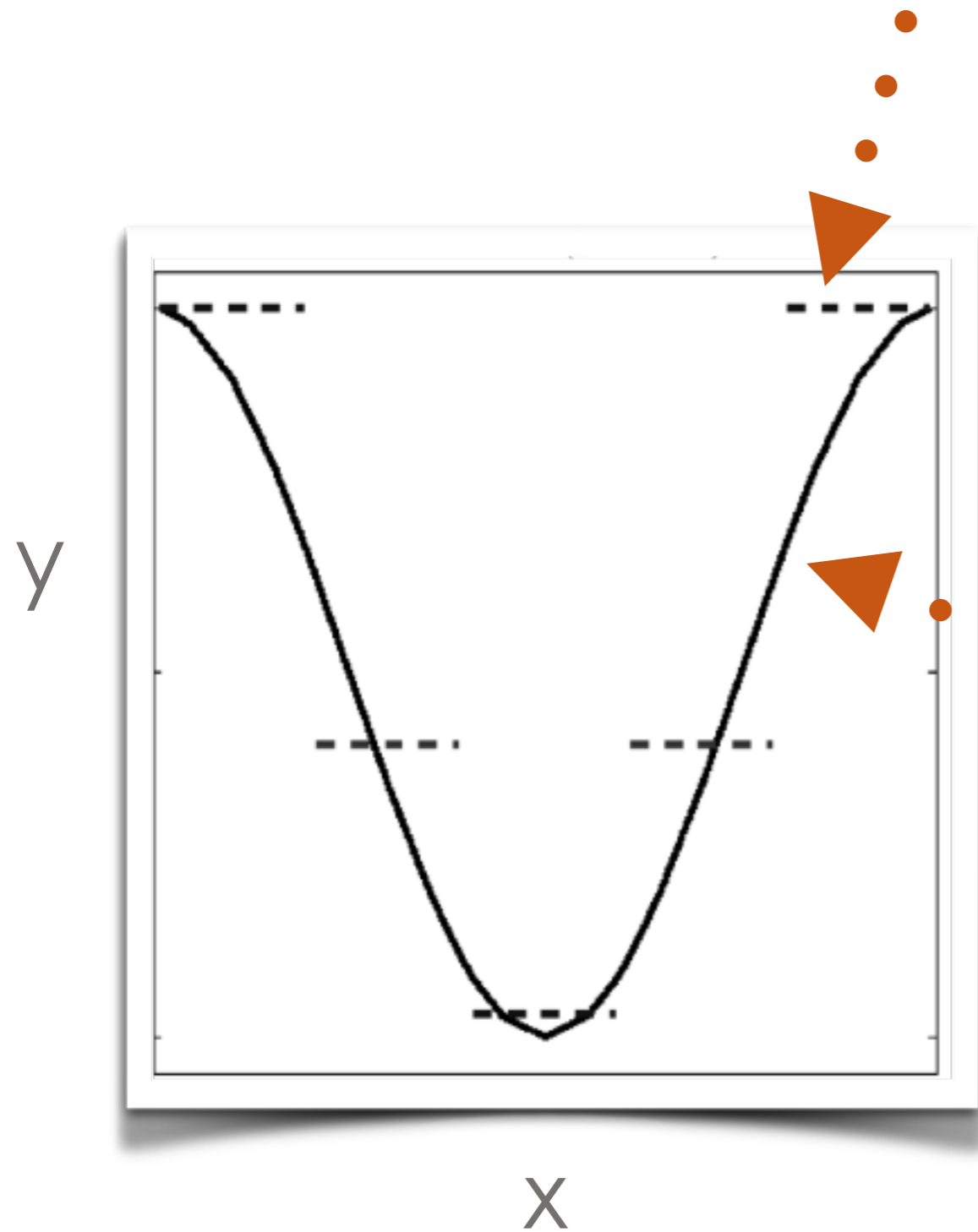
Discontinuous Galerkin



al

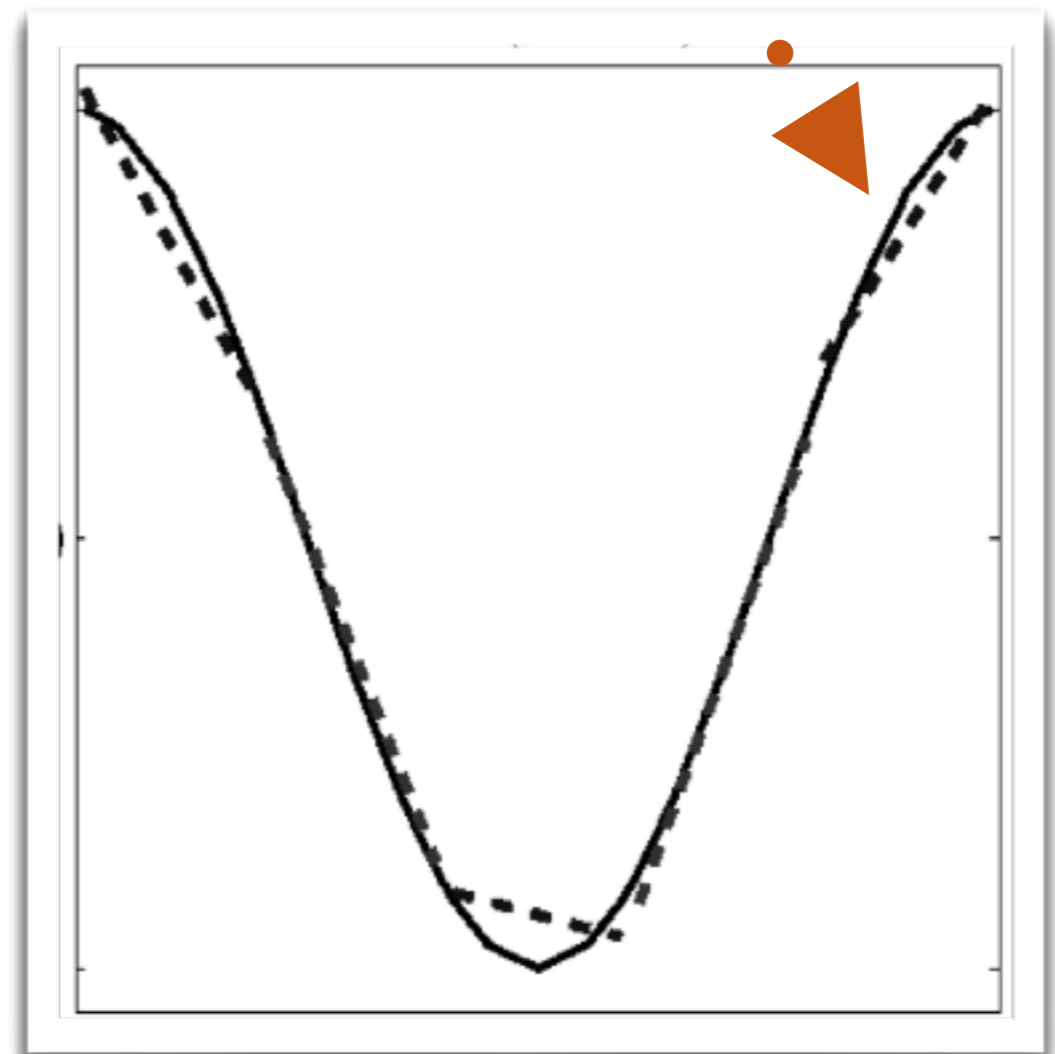
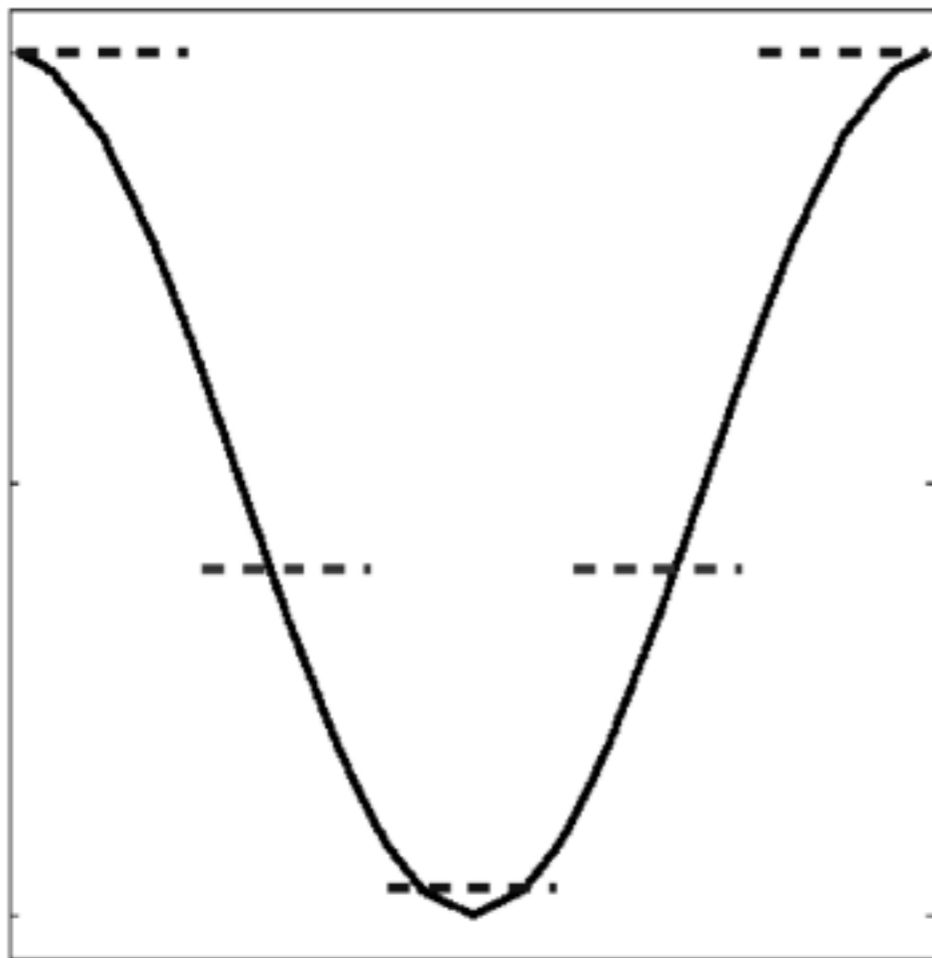
a

Benadering met 5 pixels



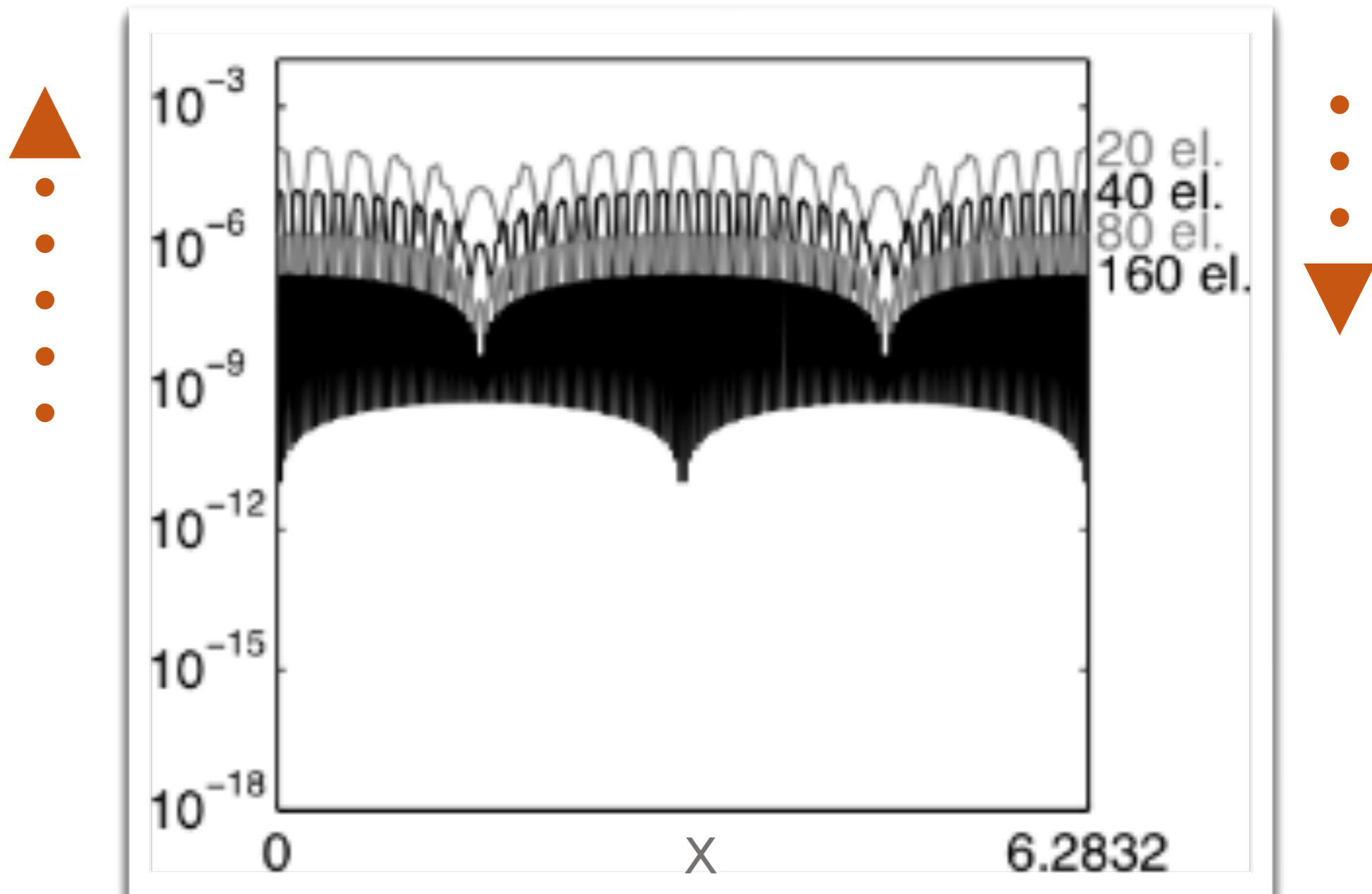
• Exacte oplossing

Discontinuous Galerkin gebruikt
slimmere pixels



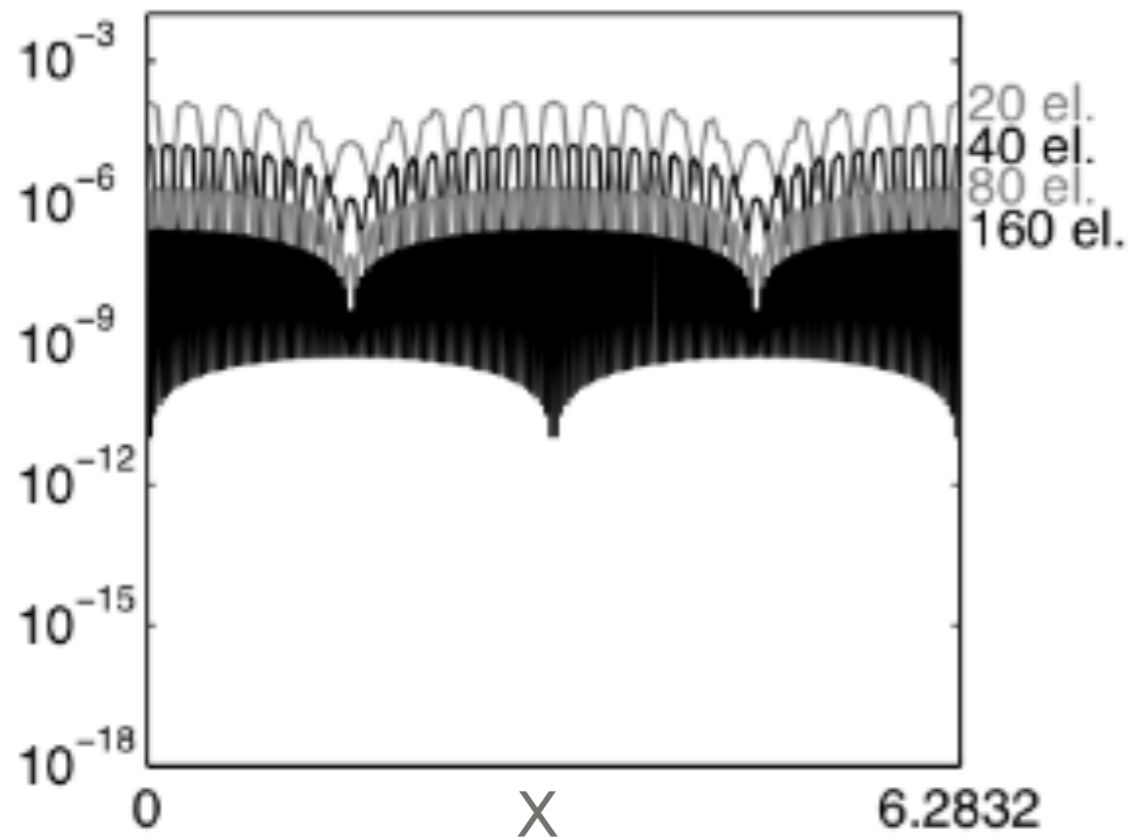
Verskil met de
echte oplossing

Aantal pixels

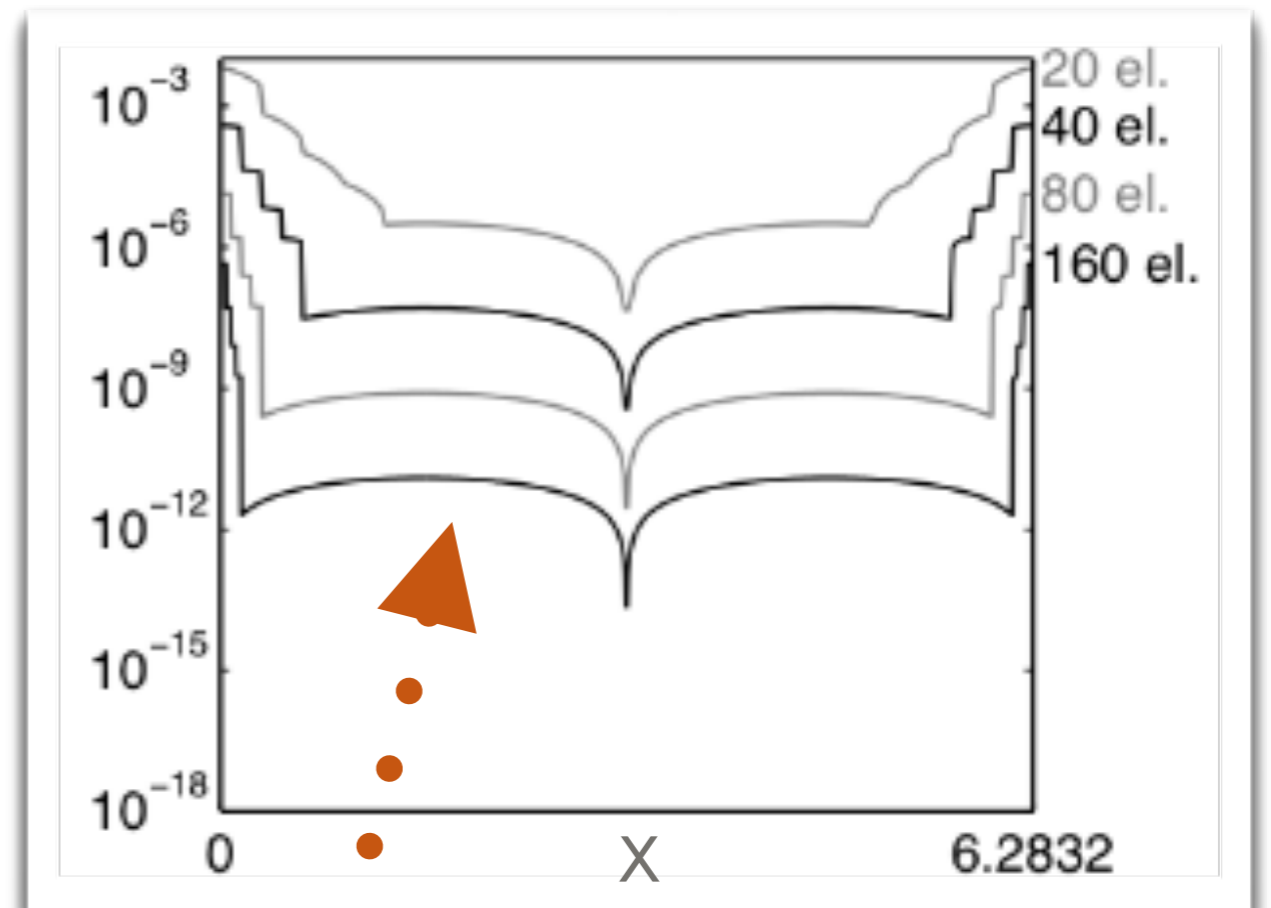


Hidden Accuracy

Zonder Filter

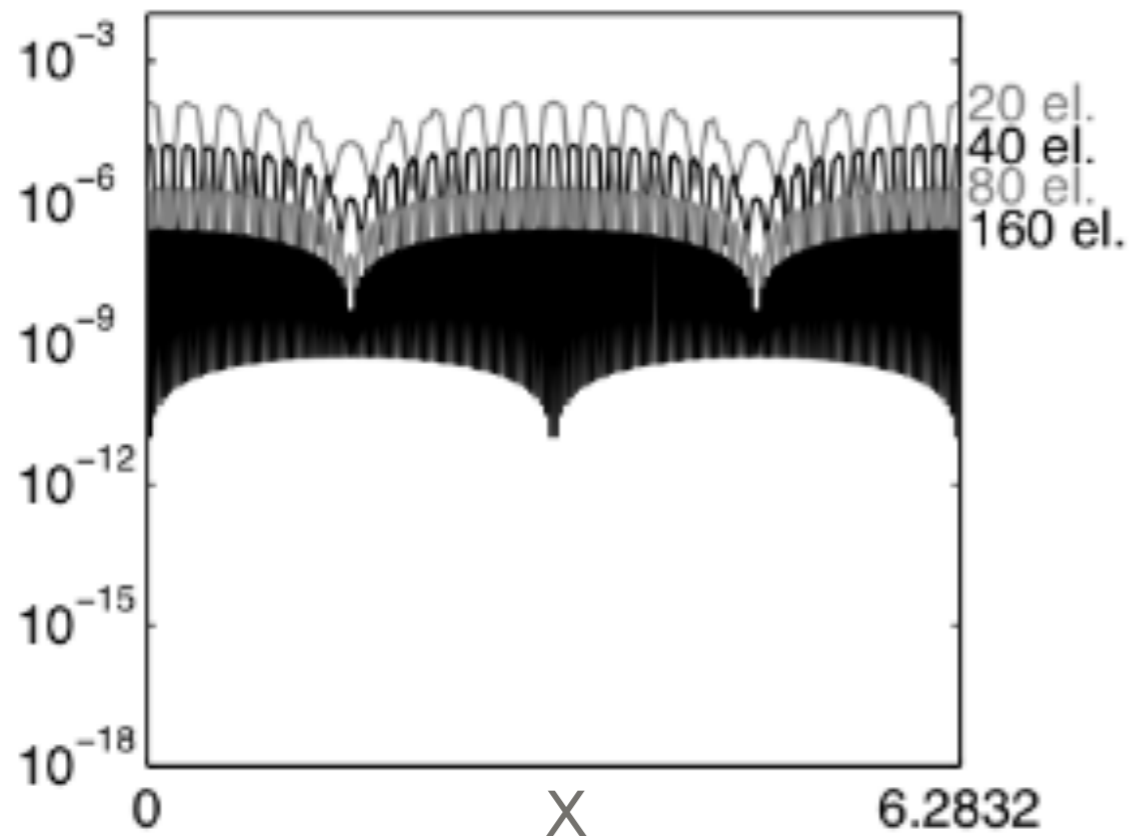


Met Filter

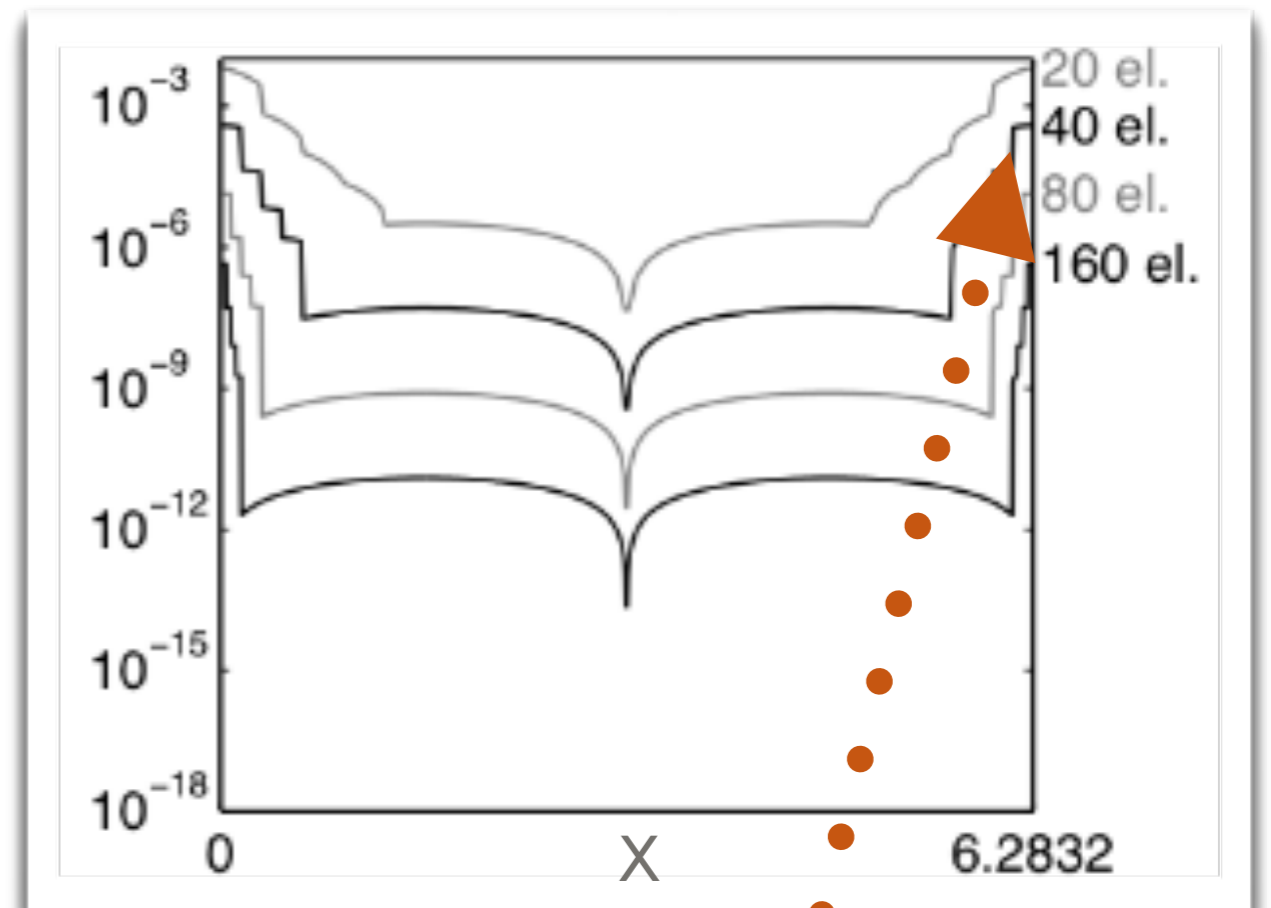


In het midden wordt de nauwkeurigheid groter

Zonder Filter

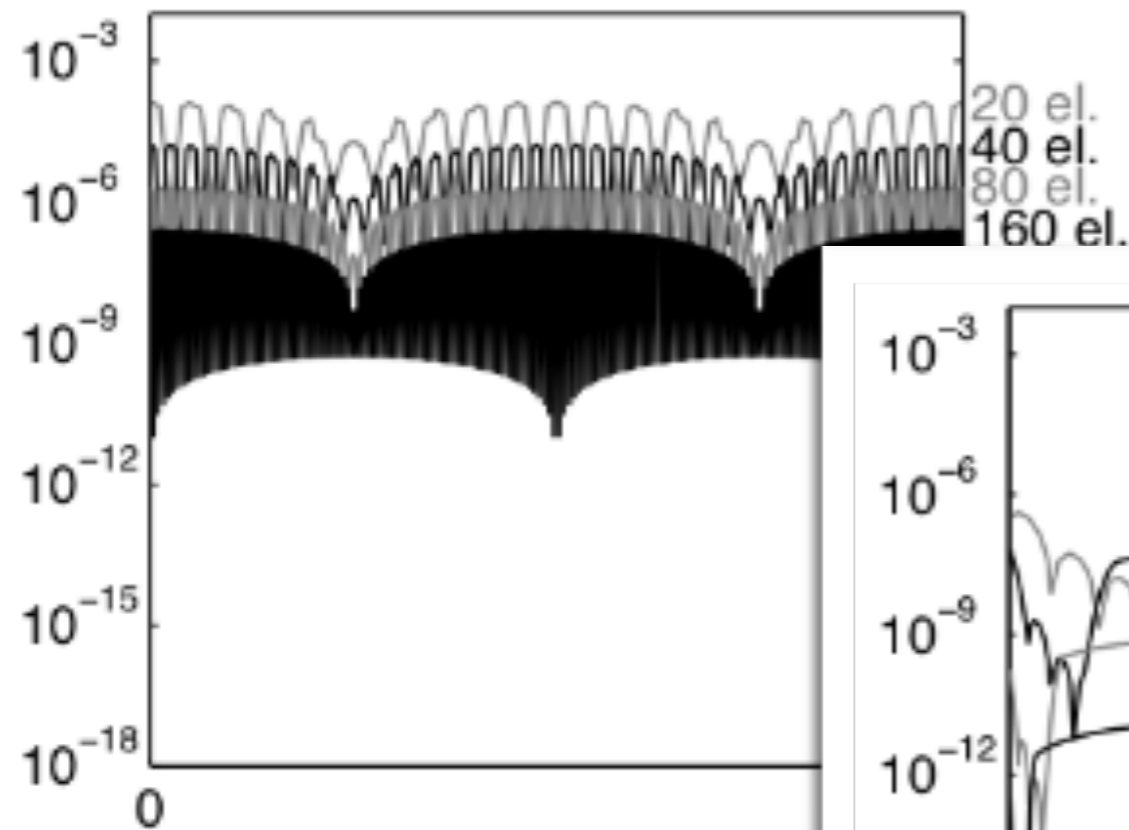


Met Filter

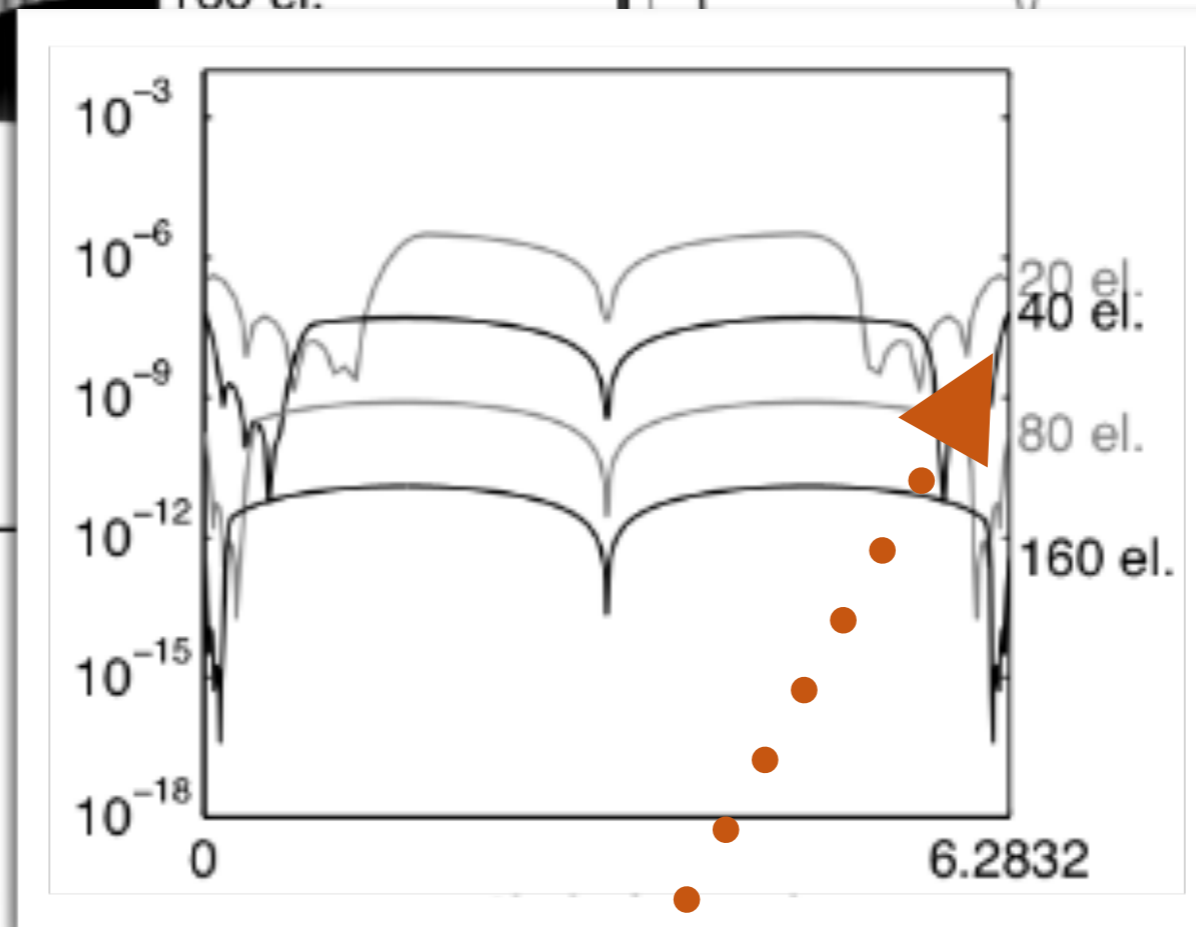
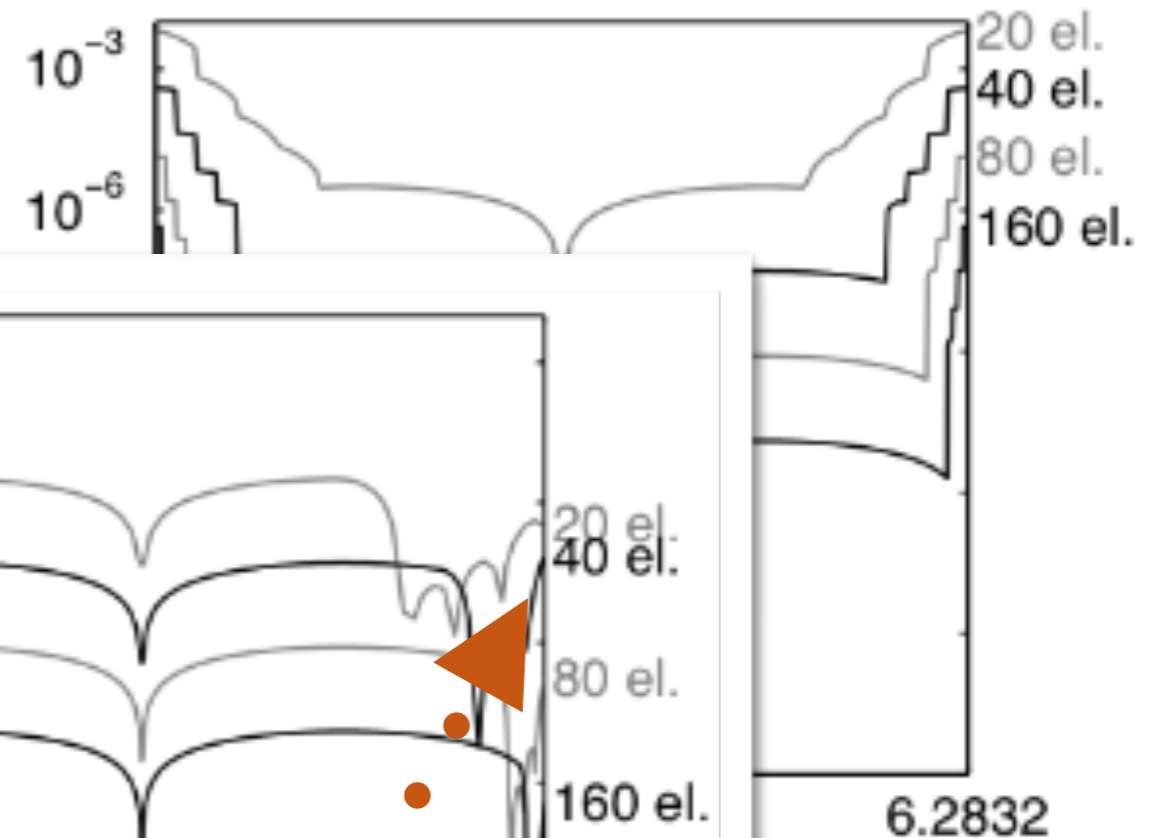


Aan de rand kan het nog beter

Zonder Filter



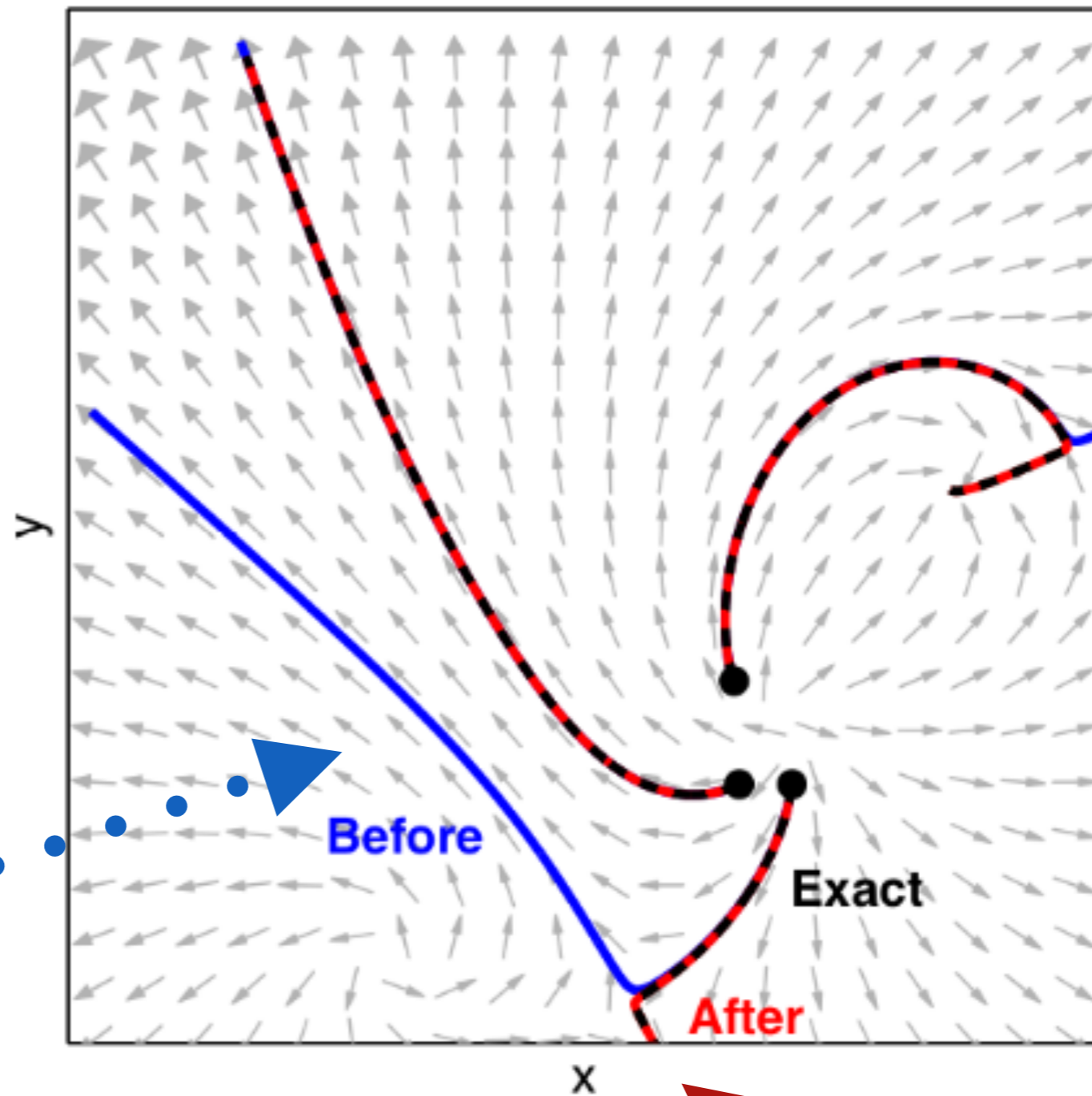
Met Filter



Het nieuwe filter werkt beter aan de rand



Stroomlijn
zonder filter



Met filter is de
voorspelling beter

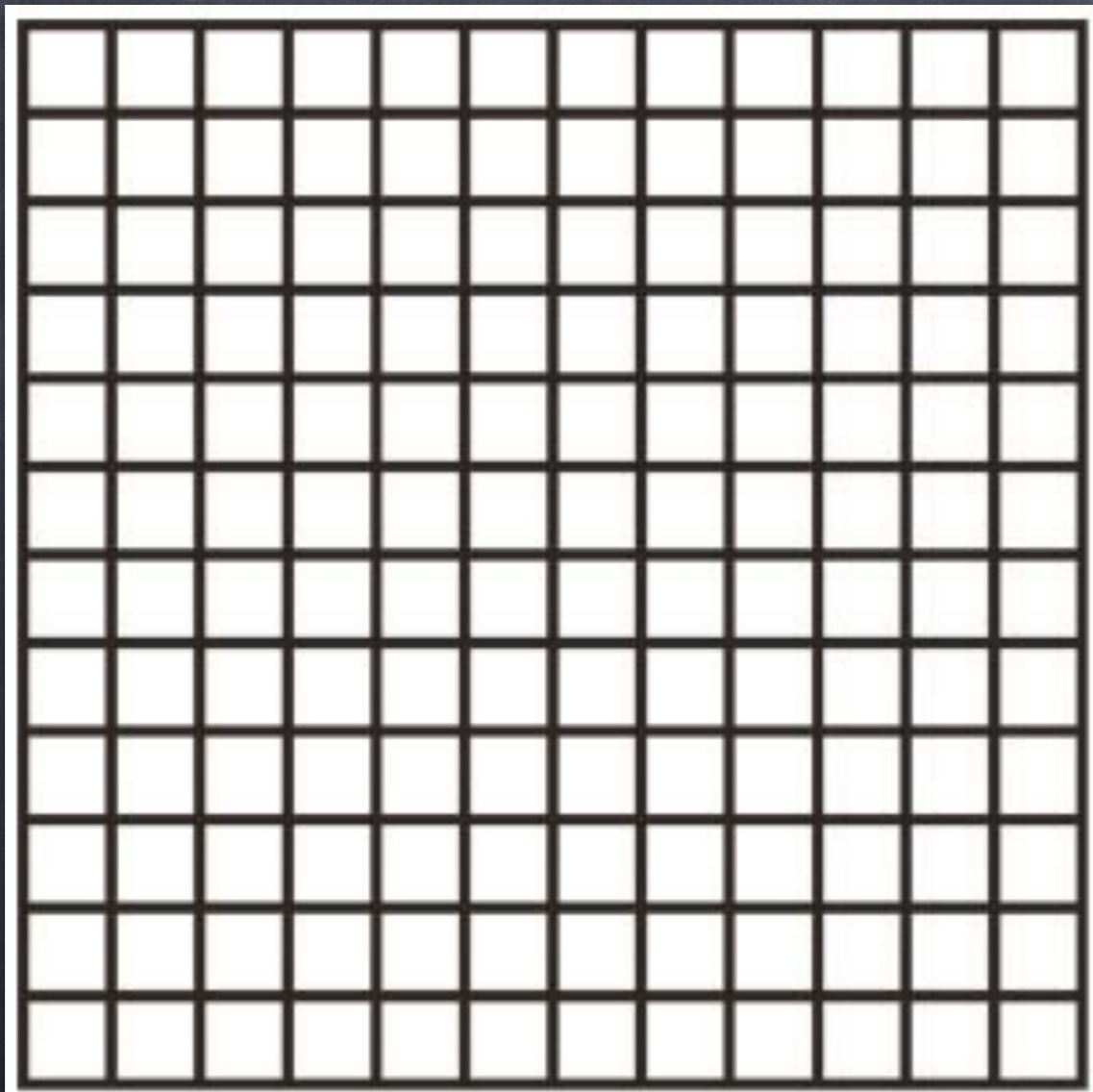
Linear systems

$$1x - 2y = -1$$

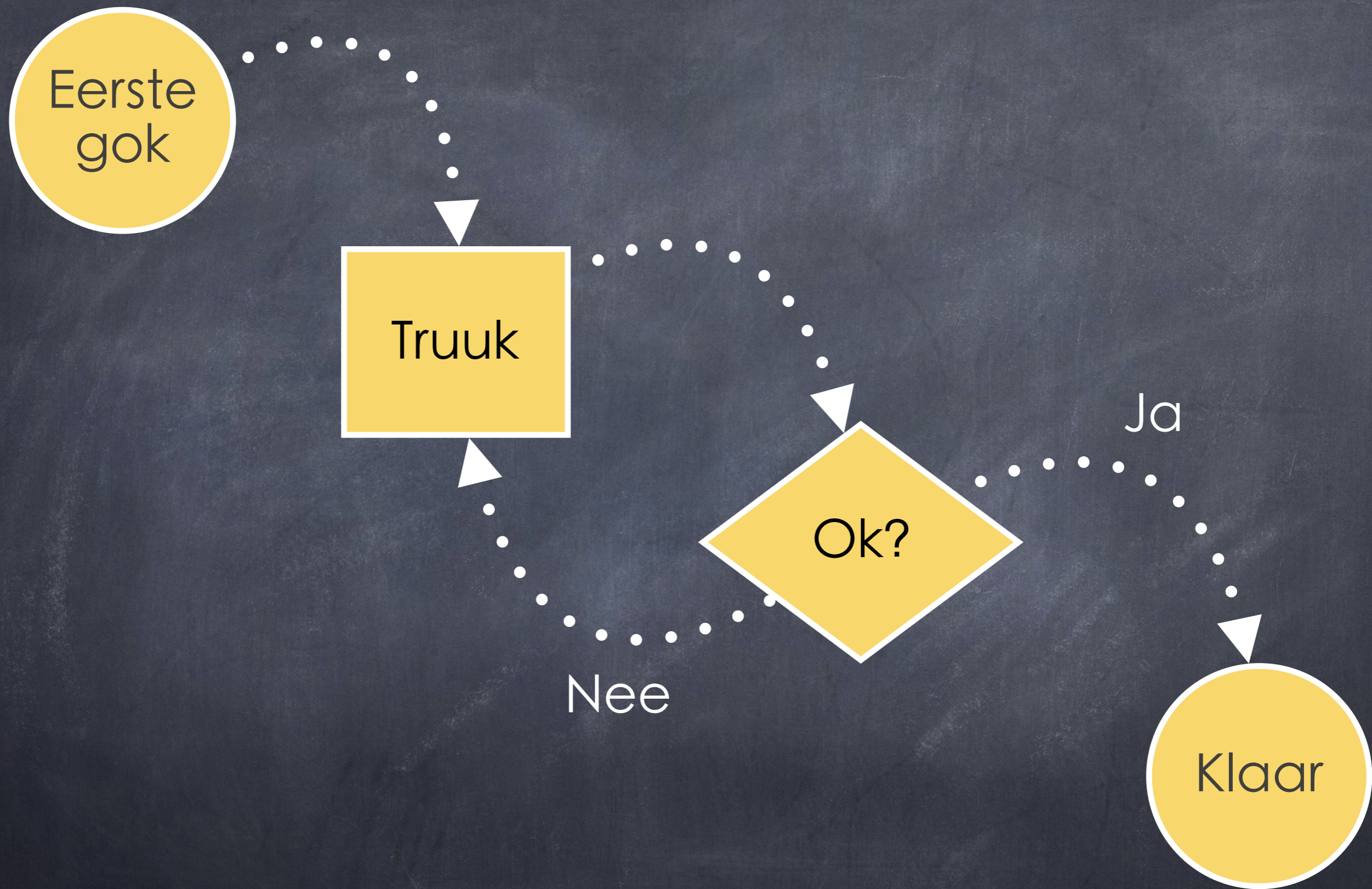
$$-1x + 3y = 3$$

Linear Stelsel

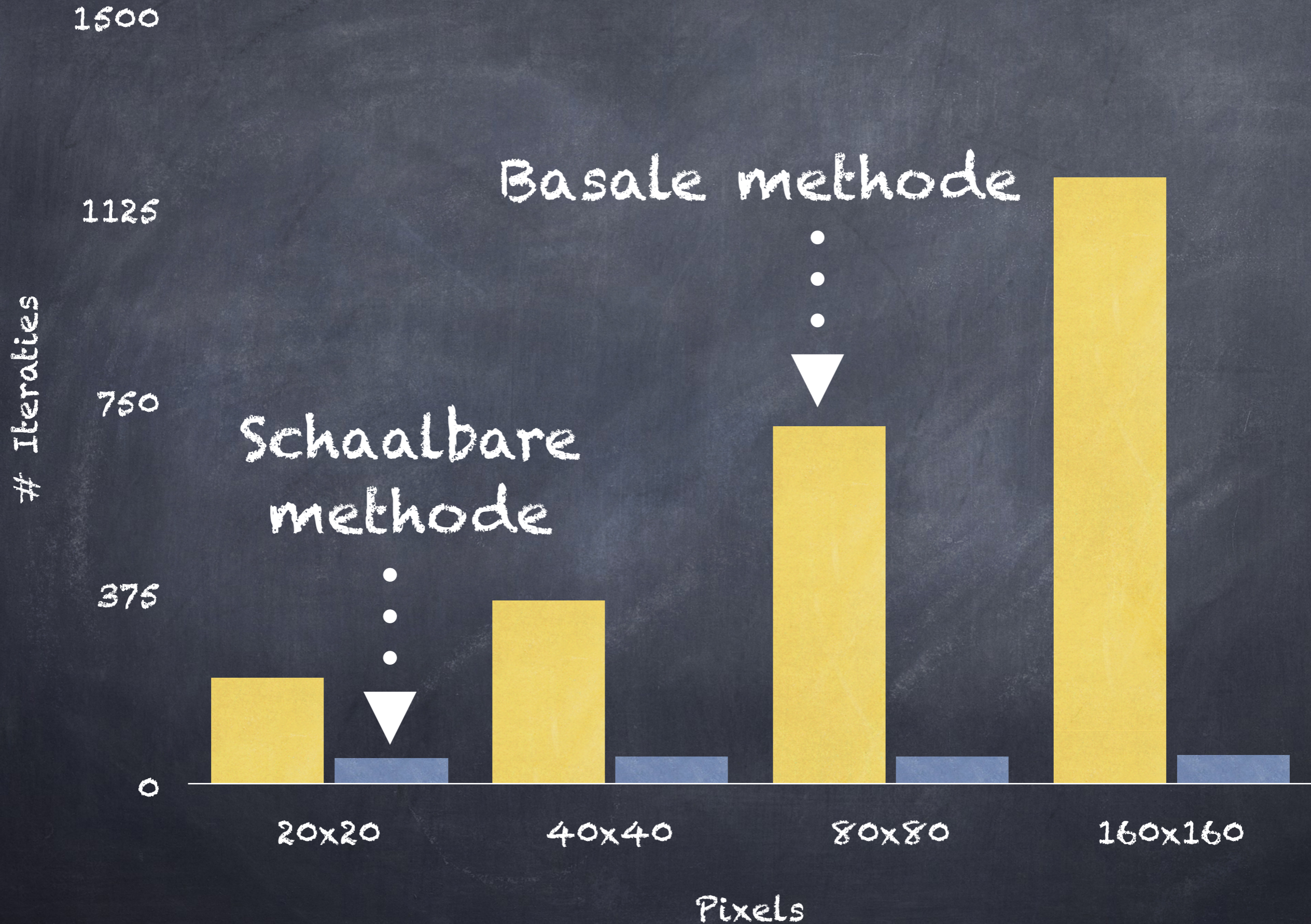
12x12 pixels



1440 vergelijkingen



Iteratieve methode



1500

1125

750

375

0

Basale methode

Schaalbare methode

20x20

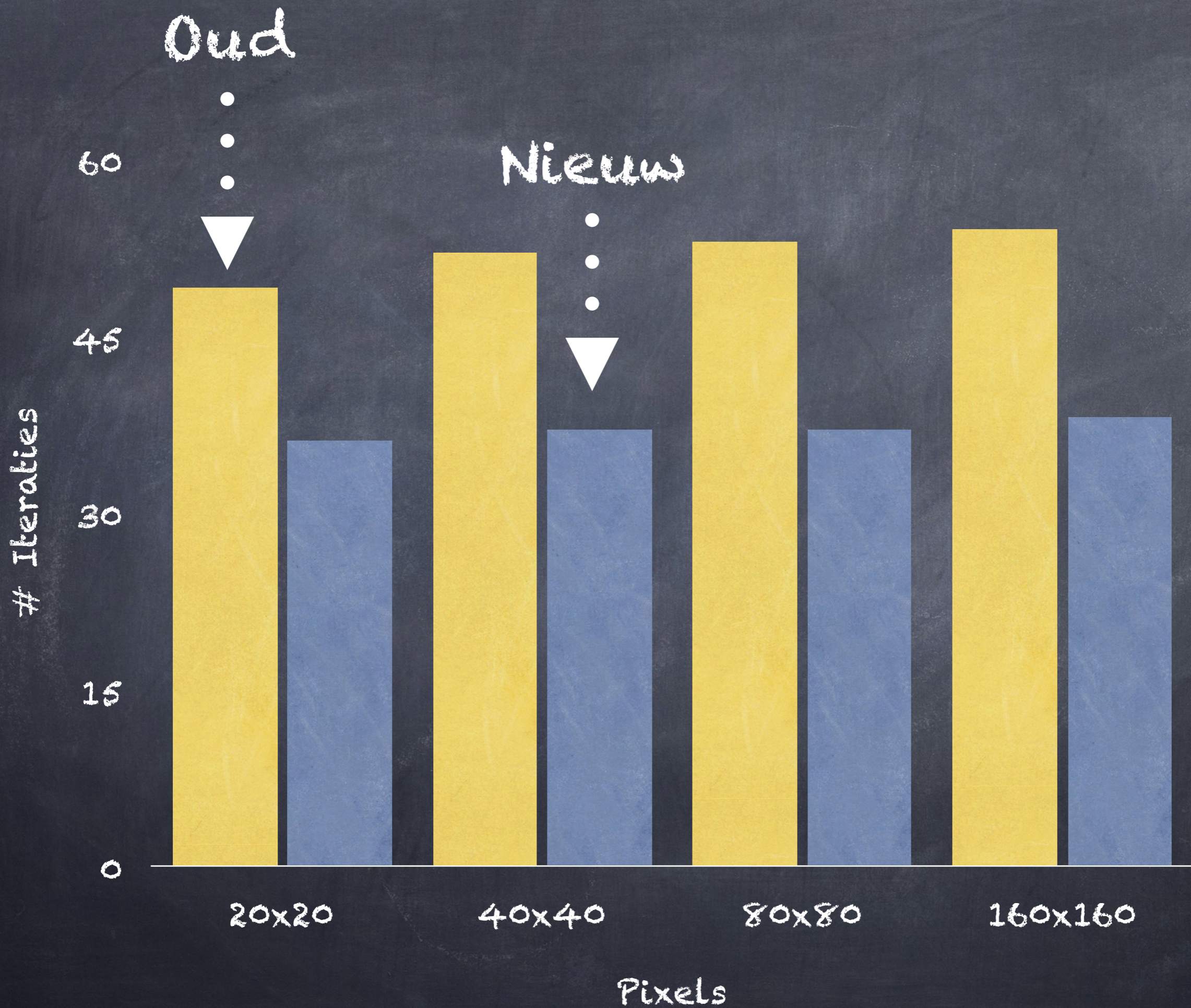
40x40

80x80

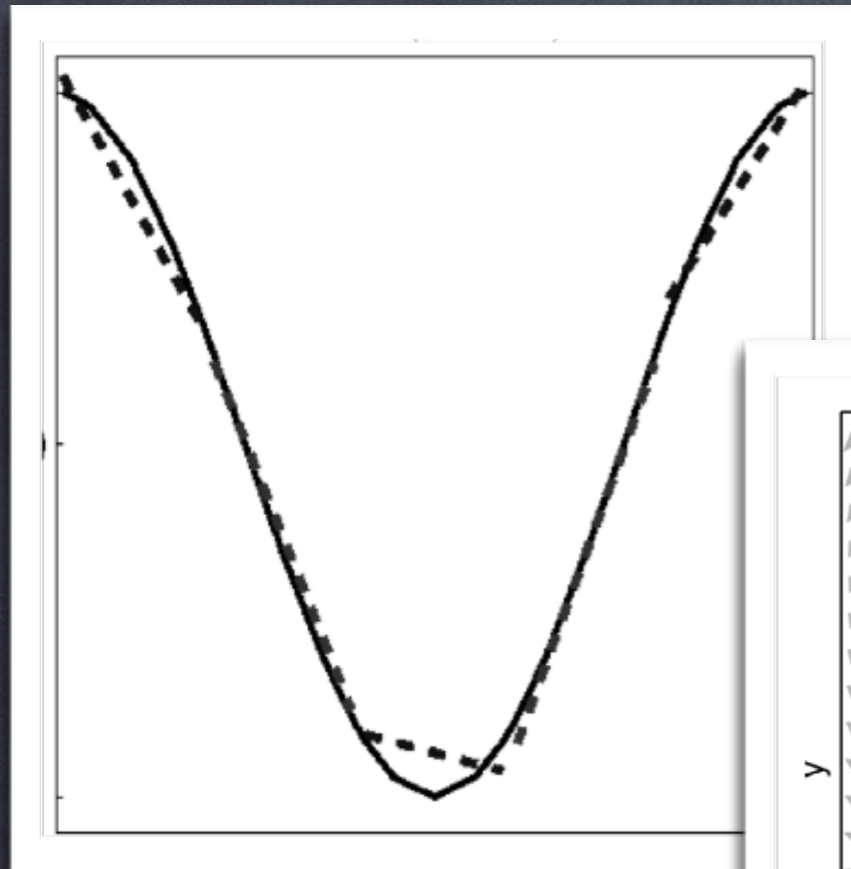
160x160

Pixels

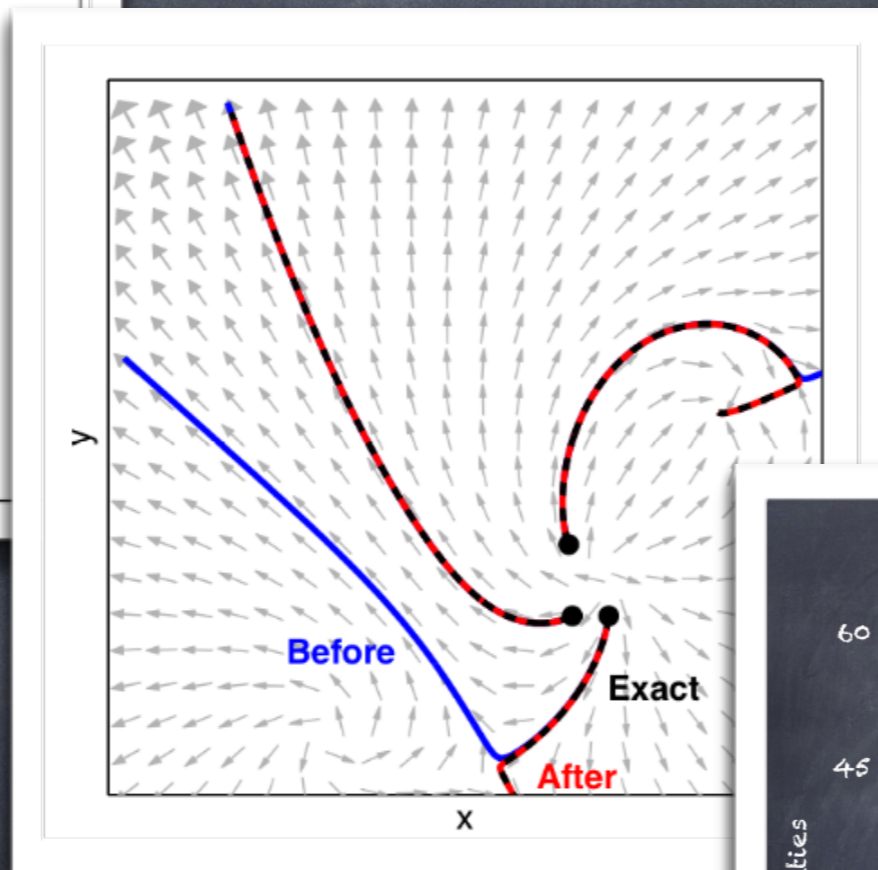
Iteraties



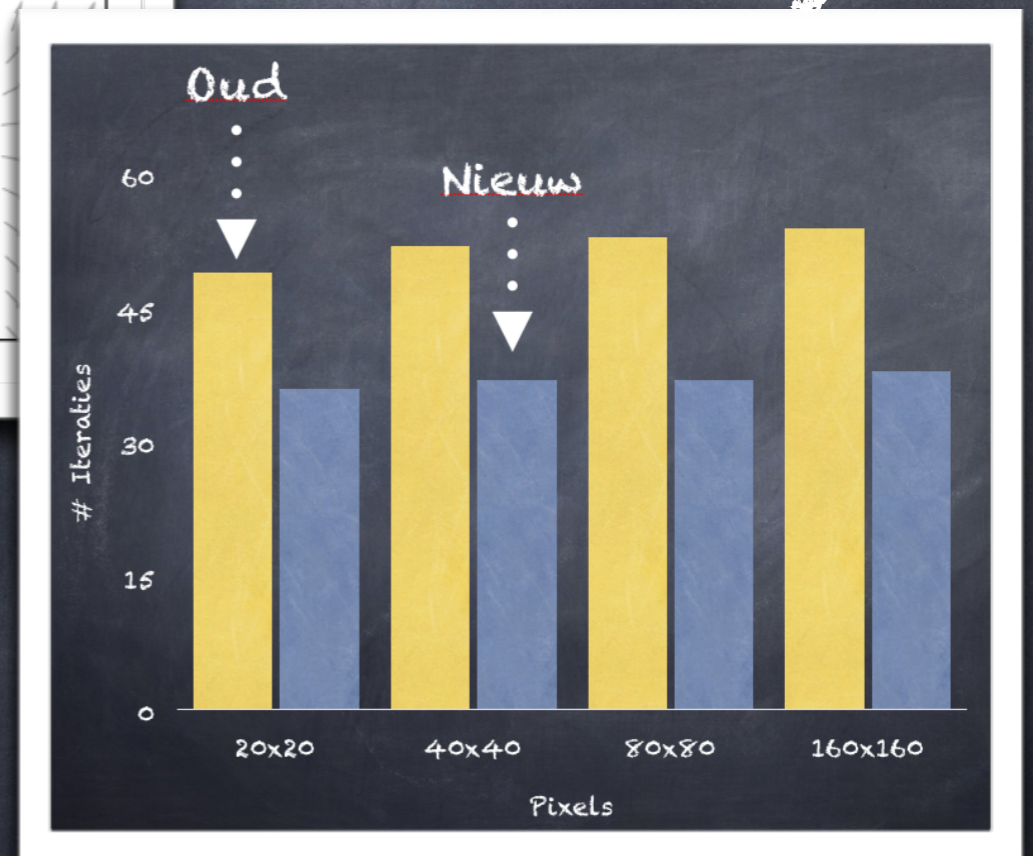
Discontinuous Galerkin



Hidden Accuracy



Linear Systems



DATA: BY THE NUMBERS



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