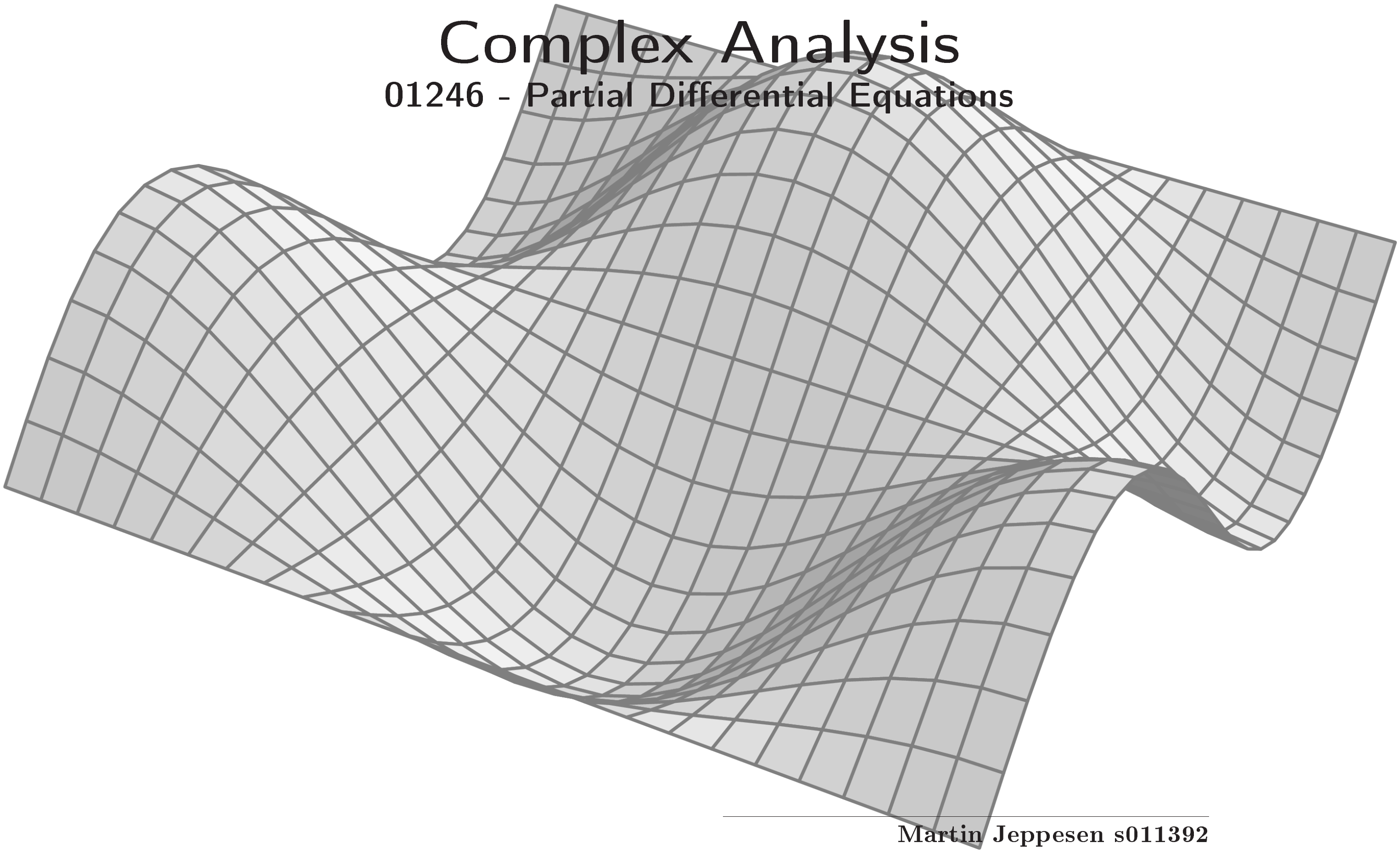
Complex Analysis

01246 - Partial Differential Equations



Martin Jeppesen s011392

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Informatik og Matematisk Modullering, DTU

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Indhold

Symbolliste

Ordinære bogstaver

Kraft [kg·m/s^2]	F
Impuls [kg·m/s]	P
Impuls [kg·m/s]	P
Impuls [kg·m/s]	P

Græske bogstaver

Vinkel [°]	α
Virkningsgrad $[0 - 1]$	η
Vinkel [°]	θ
Bølgelængde [m]	λ
Densitet [kg/m^3]	ρ
Egentid [s]	τ
Vinkel [°]	φ
Vinkelhastighed [s^{-1}]	ω

Indeks

Heltalstæller $[0 - \infty]$	i
Heltalstæller $[0 - \infty]$	i
Heltalstæller $[0 - \infty]$	i
Heltalstæller $[0 - \infty]$	i

1 Latex examples

1.1 Progress

For at beregne $v_{\text{slut,E,med hop}}$ skal følgende delproblemer løses:

1. Hvad er tidspunktet for landingen?
2. Hvad er landingspunktet på stykket E?
3. Hvad er start hastigheden?
4. Hvad er tidspunktet for enden?

$$\ell_{\text{E}} \xrightarrow{x(t_{\text{slut}})=\ell_{\text{E}}} t_{\text{slut}} \xrightarrow{v(t_{\text{slut}})=v_{\text{slut}}} v_{\text{slut}}$$

1.2 Equations

$$\begin{aligned}
x^2: &\quad \alpha^2x^2 - x^2 = c^2\delta^2x^2 &\Leftrightarrow&\quad 1 = \alpha^2 - c^2\delta^2 \\
t^2: &\quad \epsilon^2t^2 + c^2t^2 = c^2\eta^2t^2 &\Leftrightarrow&\quad \epsilon^2 + c^2 = c^2\eta^2 \\
t, x: &\quad 2\alpha x\epsilon t = c^2 2\delta x\eta t &\Leftrightarrow&\quad \alpha\epsilon = c^2\delta\eta
\end{aligned}$$

Tredie del er at isolere α, δ, ϵ. For at gøre det, skal ligning (**??**) anvendes.

$$\begin{aligned}
\alpha\epsilon = c^2\delta\eta &\quad\Rightarrow\quad \alpha\epsilon = c^2\delta\alpha &\Leftrightarrow&\quad \epsilon = c^2\delta &&; \eta \text{ indsæt} \\
1 = \alpha^2 - c^2\delta^2 &\quad\Leftrightarrow\quad 1 = \alpha^2 - \frac{c^4}{c^2}\delta^2 &\Leftrightarrow&\quad 1 = \alpha^2 - \frac{\epsilon^2}{c^2} &&; \epsilon^2 \text{ indsæt}
\end{aligned}$$

$$\begin{aligned}
1 = \alpha^2 - \frac{(-v\alpha)^2}{c^2} &\quad\Leftrightarrow\quad \alpha = \frac{1}{\sqrt{1 - V^2/c^2}} &&; \alpha \text{ isoleret} \\
\alpha = \eta &\quad\Rightarrow\quad \eta = \frac{1}{\sqrt{1 - V^2/c^2}} &&; \eta \text{ isoleret} \\
-V = \frac{\epsilon}{\eta} &\quad\Rightarrow\quad \epsilon = \frac{-V}{\sqrt{1 - V^2/c^2}} &&; \epsilon \text{ isoleret} \\
\epsilon = c^2\delta &\quad\Rightarrow\quad \delta = \frac{-V/c^2}{\sqrt{1 - V^2/c^2}} &&; \delta \text{ isoleret}
\end{aligned}$$

$$\begin{aligned}
\frac{\mathrm{d}\mathbf{L}_A}{\mathrm{d}t} &= \mathbf{r} \times \mathbf{F} = I_A\frac{\mathrm{d}\omega}{\mathrm{d}t} &&; \text{IMS mht. A} \\
0 &= \overbrace{\frac{1}{2}\ell \times m\mathbf{g}}^{\otimes} + \overbrace{\ell \times \mathbf{S}}^{\odot} + 0 \times \mathbf{F}_A &&; \text{ins, } \omega = \mathrm{d}t = 0 \\
\ell S \sin 90 &= \frac{1}{2}\ell mg\sin(180 - \theta_0) &&; \text{simp} \\
S &= \frac{1}{2}mg\sin\theta_0 &&; \text{simp}
\end{aligned}$$

$$abc = xxx = xxxxxxxxxxxx = aaaaaaaaa \quad (1)$$
$$ab = yyyyyyyyyyyyyyy = yyyy = ab \quad (2)$$

$$\begin{aligned} f(x) &= 0 \quad \text{hvis} \quad f(x^2+1)+3x \in A \\ g(y) &= 1 \quad \text{hvis} \quad y \in \{1,2\} \end{aligned}$$

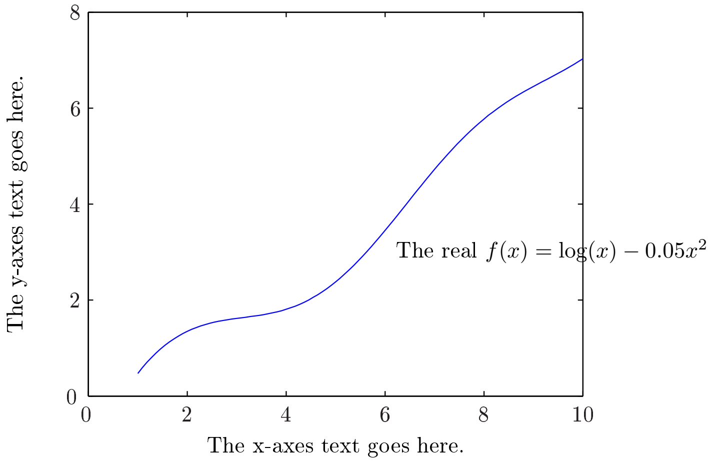
$$\begin{aligned} aaaaa = aaa\big[&aaaaaaaa \\ &bbbbbbbbbbbb\big] \\ = 0.& \end{aligned}$$

$$\stackrel{\text{def}}{=}\equiv$$

1.3 Tables

Størrelse	Symbol	SI-enhed
vinkel hastighed	ω	s^{-1}

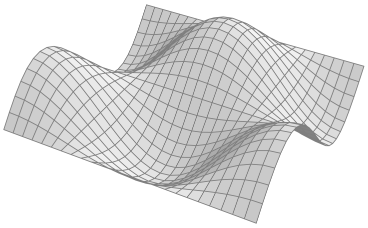
1.4 Figures



Figur 1.3: Noget tekst under figuren

1.5 Macros

$$\frac{\partial^4 f(x,y,z)}{\partial x \partial y^2 \partial z}$$



$$
\begin{aligned}
x: \quad & F_{\mathrm{g,x}} - f_{\mathrm{sne}} - f_{\mathrm{luft}} = m a_{\mathrm{res,x}} \\
x: \quad & mg\sin(\alpha_{\mathrm{B}}) - \mu_{\mathrm{k}} N - kv = m a_{\mathrm{res,x}} \\
\\
y: \quad & N - F_{\mathrm{g,y}} = F_{\mathrm{res,y}} \\
y: \quad & N - mg\cos(\alpha_{\mathrm{B}}) = 0
\end{aligned}
$$

Figur 1.3: Sinus kurve.

$$\frac{\partial^5 f(x,y,z)}{\partial {x^2}^3 \partial y \partial \alpha}$$

$$\mathbf{x}, x_{ij} = \frac{\partial^4 f(x,y,z)}{\partial \mathbf{x}^2 \partial x_{ij} \partial \mathbf{y}}$$

$$\nabla \cdot A, \qquad \nabla B, \qquad \Delta C$$

1.6 Boxes

A a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a
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a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a
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