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**Sprawozdanie**

Ćwiczenie 2 z metod obliczeniowych w nauce i technice

dla

badaniu zależności błędu metody elementów skończonych od liczby stopni swobody dla różnych rozwiązań i sposobów zagęszczania siatki

**Zadanie 1**

**Parametry:**

* A
  + 35
  + 0.51
* B
  + 0.6
  + 0.8

**Wyniki:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **A**   |  |  | | --- | --- | | NDOF | H1 | | 1,04E+00 | -4,58E-02 | | 1,32E+00 | -3,38E-01 | | 1,61E+00 | -7,18E-01 | | 1,91E+00 | -9,89E-01 | | 1,32E+00 | -4,54E-01 | | 1,61E+00 | -1,14E+00 | | 1,91E+00 | -1,35E+00 | | 2,21E+00 | -2,01E+00 | | 1,49E+00 | -1,10E+00 | | 1,79E+00 | -1,25E+00 | | 2,08E+00 | -2,35E+00 | | 2,38E+00 | -3,00E+00 |   Tabela Wyniki zadania 1 dla przypadku A | **B**   |  |  | | --- | --- | | NDOF | H1 | | 1,04E+00 | -1,17E+00 | | 1,32E+00 | -1,22E+00 | | 1,61E+00 | -1,26E+00 | | 1,91E+00 | -1,29E+00 | | 1,32E+00 | -1,40E+00 | | 1,61E+00 | -1,43E+00 | | 1,91E+00 | -1,47E+00 | | 2,21E+00 | -1,50E+00 | | 1,49E+00 | -1,47E+00 | | 1,79E+00 | -1,51E+00 | | 2,08E+00 | -1,54E+00 | | 2,38E+00 | -1,58E+00 |   Tabela Wyniki zadania 1 dla przypadku B |

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Tabela Wykresy dla zadania 1, przypadek A, stopień 1

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Tabela Wykresy dla zadania 1, przypadek A, stopień 2

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Tabela Wykresy dla zadania 1, przypadek A, stopień 3

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Tabela Wykresy dla zadania 1, przypadek B, stopień 1

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Tabela Wykresy dla zadania 1, przypadek B, stopień 2

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Tabela Wykresy dla zadania 1, przypadek B, stopień 3

Wykres zbieżności Zadanie 1 A

Wykres zbieżności Zadanie 1 B

**Zadanie 2**

**Parametry:**

* A
  + 35
  + 0.51
* B
  + 0.6
  + 0.8

**Wyniki:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A adapth**   |  |  | | --- | --- | | NDOF | H1 | | 1,04E+00 | -4,58E-02 | | 1,30E+00 | -3,38E-01 | | 1,52E+00 | -7,18E-01 | | 1,60E+00 | -9,85E-01 | | 1,32E+00 | -4,54E-01 | | 1,59E+00 | -1,14E+00 | | 1,67E+00 | -1,35E+00 | | 1,76E+00 | -1,97E+00 | | 1,49E+00 | -1,10E+00 | | 1,76E+00 | -1,25E+00 | | 1,79E+00 | -2,26E+00 | | 1,88E+00 | -2,57E+00 | | **B adapth**   |  |  | | --- | --- | | NDOF | H1 | | 1,91E+00 | 8,09E-01 | | 2,10E+00 | 5,82E-01 | | 2,29E+00 | 3,86E-01 | | 2,27E+00 | 5,73E-01 | | 2,46E+00 | 5,99E-01 | | 2,60E+00 | 2,66E-01 | | 2,82E+00 | -9,47E-02 | | 3,14E+00 | -4,71E-01 | | 2,80E+00 | 4,08E-01 | | 2,91E+00 | 3,28E-02 | | 3,18E+00 | -4,60E-01 | | 3,42E+00 | -9,51E-01 | | **A adaptp**   |  |  | | --- | --- | | NDOF | H1 | | 1,04E+00 | -4,58E-02 | | 1,30E+00 | -4,54E-01 | | 1,46E+00 | -1,10E+00 | | 1,58E+00 | -1,11E+00 | | 1,32E+00 | -4,54E-01 | | 1,48E+00 | -1,10E+00 | | 1,59E+00 | -1,11E+00 | | 1,65E+00 | -1,39E+00 | | 1,49E+00 | -1,10E+00 | | 1,60E+00 | -1,11E+00 | | 1,66E+00 | -1,39E+00 | | 1,68E+00 | -2,02E+00 | | **B adaptp**   |  |  | | --- | --- | | NDOF | H1 | | 1,91E+00 | 8,09E-01 | | 2,18E+00 | 5,99E-01 | | 2,34E+00 | 4,14E-01 | | 2,47E+00 | 2,60E-01 | | 2,46E+00 | 5,99E-01 | | 2,55E+00 | 4,14E-01 | | 2,64E+00 | 2,59E-01 | | 2,73E+00 | 7,50E-02 | | 2,80E+00 | 4,08E-01 | | 2,84E+00 | 2,51E-01 | | 2,89E+00 | 7,42E-02 | | 2,95E+00 | -8,50E-02 | |