

# OpenGeoProver Output for conjecture “geothm\_zadatak”

Wu’s method used

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## 1 Invoking the theorem prover

The used proving method is Wu’s method.

The input system is:

$$\begin{aligned} p_1 &= 2x_1 - \\ p_2 &= 2x_2 - \\ p_3 &= 2x_4 - x_1 \\ p_4 &= 2x_5 - x_2 \\ p_5 &= 2x_6 - x_3 \\ p_6 &= 2x_7 - x_1 - \\ p_7 &= 2x_8 - x_2 \\ p_8 &= 2x_9 - x_3 \\ p_9 &= 2x_{10} - x_1 - \\ p_{10} &= 2x_{11} - x_2 - \\ p_{11} &= 2x_{12} - x_3 \\ p_{12} &= 2x_{13} - x_1 \\ p_{13} &= 2x_{14} - x_2 - \\ p_{14} &= 2x_{15} - x_3 \\ p_{15} &= x_{16} - x_{12}x_8 + x_{12}x_5 + x_{11}x_9 - x_{11}x_6 - x_9x_5 + x_8x_6 \\ p_{16} &= x_{17} + x_{12}x_7 - x_{12}x_4 - x_{10}x_9 + x_{10}x_6 + x_9x_4 - x_7x_6 \\ p_{17} &= x_{18} - x_{11}x_7 + x_{11}x_4 + x_{10}x_8 - x_{10}x_5 - x_8x_4 + x_7x_5 \\ p_{18} &= x_{19} + x_{18}x_6 + x_{17}x_5 + x_{16}x_4 \\ p_{19} &= x_{20} - \end{aligned}$$

### 1.1 Triangulation, step 1

**Choosing variable:** Trying the variable with index 19.

**Variable  $x_{19}$  selected:** The number of polynomials with this variable, with indexes from 1 to 19, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{18}$ . No reduction needed.

The triangular system has not been changed.

## 1.2 Triangulation, step 2

**Choosing variable:** Trying the variable with index 18.

**Variable  $x_{18}$  selected:** The number of polynomials with this variable, with indexes from 1 to 18, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{17}$ . No reduction needed.

The triangular system has not been changed.

## 1.3 Triangulation, step 3

**Choosing variable:** Trying the variable with index 17.

**Variable  $x_{17}$  selected:** The number of polynomials with this variable, with indexes from 1 to 17, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{16}$ . No reduction needed.

The triangular system has not been changed.

## 1.4 Triangulation, step 4

**Choosing variable:** Trying the variable with index 16.

**Variable  $x_{16}$  selected:** The number of polynomials with this variable, with indexes from 1 to 16, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{15}$ . No reduction needed.

The triangular system has not been changed.

## 1.5 Triangulation, step 5

**Choosing variable:** Trying the variable with index 15.

**Variable  $x_{15}$  selected:** The number of polynomials with this variable, with indexes from 1 to 15, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{14}$ . No reduction needed.

The triangular system has not been changed.

## 1.6 Triangulation, step 6

**Choosing variable:** Trying the variable with index 14.

**Variable  $x_{14}$  selected:** The number of polynomials with this variable, with indexes from 1 to 14, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{13}$ . No reduction needed.

The triangular system has not been changed.

## 1.7 Triangulation, step 7

**Choosing variable:** Trying the variable with index 13.

**Variable  $x_{13}$  selected:** The number of polynomials with this variable, with indexes from 1 to 13, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{12}$ . No reduction needed.

The triangular system has not been changed.

## 1.8 Triangulation, step 8

**Choosing variable:** Trying the variable with index 12.

**Variable  $x_{12}$  selected:** The number of polynomials with this variable, with indexes from 1 to 12, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{11}$ . No reduction needed.

The triangular system has not been changed.

## 1.9 Triangulation, step 9

**Choosing variable:** Trying the variable with index 11.

**Variable  $x_{11}$  selected:** The number of polynomials with this variable, with indexes from 1 to 11, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_{10}$ . No reduction needed.

The triangular system has not been changed.

### 1.10 Triangulation, step 10

**Choosing variable:** Trying the variable with index 10.

**Variable  $x_{10}$  selected:** The number of polynomials with this variable, with indexes from 1 to 10, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_9$ . No reduction needed.

The triangular system has not been changed.

### 1.11 Triangulation, step 11

**Choosing variable:** Trying the variable with index 9.

**Variable  $x_9$  selected:** The number of polynomials with this variable, with indexes from 1 to 9, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_8$ . No reduction needed.

The triangular system has not been changed.

### 1.12 Triangulation, step 12

**Choosing variable:** Trying the variable with index 8.

**Variable  $x_8$  selected:** The number of polynomials with this variable, with indexes from 1 to 8, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_7$ . No reduction needed.

The triangular system has not been changed.

### 1.13 Triangulation, step 13

**Choosing variable:** Trying the variable with index 7.

**Variable  $x_7$  selected:** The number of polynomials with this variable, with indexes from 1 to 7, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_6$ . No reduction needed.

The triangular system has not been changed.

### 1.14 Triangulation, step 14

**Choosing variable:** Trying the variable with index 6.

**Variable  $x_6$  selected:** The number of polynomials with this variable, with indexes from 1 to 6, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_5$ . No reduction needed.

The triangular system has not been changed.

### 1.15 Triangulation, step 15

**Choosing variable:** Trying the variable with index 5.

**Variable  $x_5$  selected:** The number of polynomials with this variable, with indexes from 1 to 5, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_4$ . No reduction needed.

The triangular system has not been changed.

### 1.16 Triangulation, step 16

**Choosing variable:** Trying the variable with index 4.

**Variable  $x_4$  selected:** The number of polynomials with this variable, with indexes from 1 to 4, is 1.

**Single polynomial with chosen variable:** Chosen polynomial is  $p_3$ . No reduction needed.

The triangular system has not been changed.

### 1.17 Triangulation, step 17

**Choosing variable:** Trying the variable with index 3.

**Error:** Variable with index 3 not found in polynomial system.

## 2 Prover results

**Status:** Proving failed - general error occurred.