Summary of symmetry calculations

June 16, 2021

Contents

Chapter 1

hydons_model

Run 01_11PM_04_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.1}$$

Run 11_23PM_07_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.2}$$

Run 11_29PM_07_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.3}$$

Run 11_35PM_07_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.4}$$

Run 11_36PM_07_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.5}$$

Run 11_38PM_07_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.6}$$

Run 11_38PM_07_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\begin{aligned}\frac{\mathrm{d}y_1}{\mathrm{d}t} &= \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}\\ \frac{\mathrm{d}y_2}{\mathrm{d}t} &= \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}\end{aligned}$$

The calculated generator is:

$$X = (K_6 t)\,\partial t + (K_6 y_1)\,\partial y_1 + (K_6 y_2)\,\partial y_2 \tag{1.7}$$

Run 08_45AM_11_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\begin{aligned}\frac{\mathrm{d}y_1}{\mathrm{d}t} &= \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}\\ \frac{\mathrm{d}y_2}{\mathrm{d}t} &= \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}\end{aligned}$$

The calculated generator is:

$$\begin{aligned}X = &(K_1 t)\,\partial t\\ &+ (K_1 y_1)\,\partial y_1\\ &+ (K_1 y_2)\,\partial y_2\end{aligned}$$

Run 08_49AM_11_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\begin{aligned}\frac{\mathrm{d}y_1}{\mathrm{d}t} &= \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}\\ \frac{\mathrm{d}y_2}{\mathrm{d}t} &= \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}\end{aligned}$$

The calculated generator is:

$$\begin{aligned} X = &(K_1 t)\,\partial t \\ &+ (K_1 y_1)\,\partial y_1 \\ &+ (K_1 y_2)\,\partial y_2 \end{aligned}$$

Run 08_50AM_11_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\begin{aligned} \frac{\mathrm{d}y_1}{\mathrm{d}t} &= \frac{t y_1 + y_2^2}{-t^2 + y_1 y_2} \\ \frac{\mathrm{d}y_2}{\mathrm{d}t} &= \frac{t y_2 + y_1^2}{-t^2 + y_1 y_2} \end{aligned}$$

The calculated generator is:

$$\begin{aligned} X = &(K_1 t)\,\partial t \\ &+ (K_1 y_1)\,\partial y_1 \\ &+ (K_1 y_2)\,\partial y_2 \end{aligned}$$

Run 08_53AM_11_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\begin{aligned} \frac{\mathrm{d}y_1}{\mathrm{d}t} &= \frac{t y_1 + y_2^2}{-t^2 + y_1 y_2} \\ \frac{\mathrm{d}y_2}{\mathrm{d}t} &= \frac{t y_2 + y_1^2}{-t^2 + y_1 y_2} \end{aligned}$$

The calculated generator is:

$$\begin{aligned} X = &(K_1 t)\,\partial t \\ &+ (K_1 y_1)\,\partial y_1 \\ &+ (K_1 y_2)\,\partial y_2 \end{aligned}$$

Run 09_29AM_11_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$\begin{aligned} X = &(K_1 t)\,\partial t \\ &+ (K_1 y_1)\,\partial y_1 \\ &+ (K_1 y_2)\,\partial y_2 \end{aligned}$$

Run 01_32PM_16_June-2021

Degree in tangential ansätze: 1
The reaction terms are:

$$\frac{\mathrm{d}y_1}{\mathrm{d}t} = \frac{ty_1 + y_2^2}{-t^2 + y_1 y_2}$$
$$\frac{\mathrm{d}y_2}{\mathrm{d}t} = \frac{ty_2 + y_1^2}{-t^2 + y_1 y_2}$$

The calculated generator is:

$$\begin{aligned} X = &(K_1 t)\,\partial t \\ &+ (K_1 y_1)\,\partial y_1 \\ &+ (K_1 y_2)\,\partial y_2 \end{aligned}$$