

Corrections to

Olver, P.J., Invariant submanifold flows, *J. Phys. A* **41** (2008), 344017.

Last updated: November 3, 2011.

page 7, equation (3.11):

Switch the  $j$  and  $k$  subscripts on the  $R$ 's in the second formula:

$$Y_{jk}^i = \sum_{\kappa=1}^r \sum_{j=1}^p R_k^\kappa \iota(D_j \xi_\kappa^i) - R_j^\kappa \iota(D_k \xi_\kappa^i) \quad (3.11)$$

page 8, line -1:

Change  $\mathcal{E}_J^\alpha = (\mathcal{E}_J^\alpha, \dots, \mathcal{E}_J^\alpha)$  to  $\mathcal{E}_J^\alpha = (\mathcal{E}_{J,1}^\alpha, \dots, \mathcal{E}_{J,q}^\alpha)$

page 11, third displayed formula:

The last 3 expressions should have a minus sign in front:

$$\begin{aligned} d_{\mathcal{H}} d_{\mathcal{V}} K &= - d_{\mathcal{V}} d_{\mathcal{H}} K = - d_{\mathcal{V}} \left[ \sum_{j=1}^p (\mathcal{D}_j K) \varpi^j \right] \\ &= - \sum_{j=1}^p [ d_{\mathcal{V}} (\mathcal{D}_j K) \wedge \varpi^j + (\mathcal{D}_j K) d_{\mathcal{V}} \varpi^j ] \\ &= - \sum_{j=1}^p \left[ \mathcal{A}_{\mathcal{D}_j K}(\vartheta) + \sum_{i=1}^p (\mathcal{D}_i K) \mathcal{B}_j^i(\vartheta) \right] \wedge \varpi^j. \end{aligned}$$

page 12, line 7:

Change “ $n^{\text{th}}$  order differential functions” to “ $(n+1)^{\text{st}}$  order differential functions”

page 12, line 10:

Change  $n$  to  $n+1$  twice in the formula  $(x, u^{(n+1)}) = j_{n+1} S|_z$ .

page 14, equation (4.10):

The first summation should only be over  $k$ :

$$\mathcal{D}_j I^i + \sum_{k=1}^p Y_{jk}^i I^k + \sum_{\alpha=1}^q \mathcal{B}_{j\alpha}^i(J^\alpha) = 0. \quad (4.10)$$

page 15, equation (4.11):

There is a missing minus sign on the right hand sides:

$$\mathcal{D}I = -\mathcal{B}(J) = - \sum_{\alpha=1}^q \mathcal{B}_\alpha(J^\alpha), \quad (4.11)$$

page 15, equation (4.12):

There is a missing “ $\wedge \varpi$ ” on the right hand sides:

$$d_{\mathcal{V}} \varpi = \mathcal{B}(\vartheta) \wedge \varpi = \sum_{\alpha=1}^q \mathcal{B}_{\alpha}(\vartheta^{\alpha}) \wedge \varpi. \quad (4.12)$$

page 15, equation (4.13):

Delete the minus sign on the right hand side:

$$\mathcal{D}I = \kappa J. \quad (4.13)$$

page 15, line 12:

Change  $I = -\frac{1}{2} \kappa^2$  to  $I = \frac{1}{2} \kappa^2$ .

page 18, line -10:

Insert a minus sign in  $\mathcal{B} = (-\kappa, 0)$ .

page 18, line -8:

Change the term  $K \mathbf{t}_2$  to  $K \mathbf{n}_2$ .

★ Thanks to Francis Valiquette for pointing out a number of these corrections.