

LIGO-GW150914 (10 Punkt)

Teil A: Newtonsche (energieerhaltende) Umlaufbahnen (3.0 Punkte)

A.1 (1.0 pt)

$$n =$$

$$\alpha =$$

A.2 (1.0 pt)

$$A(\mu, \Omega, L) =$$

A.3 (1.0 pt)

$$\beta =$$

Teil B: Einführung relativistischer Energieverluste (7.0 Punkte)

B.1 (1.0 pt)

$$k =$$

$$a_1 =$$

$$a_2 =$$

$$a_3 =$$

$$b_1 =$$

$$b_2 =$$

$$b_3 =$$

$$c_{12} =$$

$$c_{13} =$$

$$c_{23} =$$

$$c_{21} =$$

$$c_{22} =$$

$$c_{23} =$$

$$c_{31} =$$

$$c_{32} =$$

$$c_{33} =$$

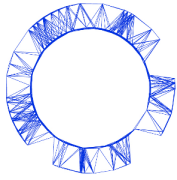
B.2 (1.0 pt)

$$\xi =$$

B.3 (1.0 pt)

$$M_c =$$

Theory



IPhO 2018
Lisbon, Portugal

A1-2

Austrian German (Austria)

B.4 (2.0 pt)

$p =$

B.5 (1.0 pt)

$M_c \simeq$

$M \simeq$

B.6 (1.0 pt)

$L_{\text{col}} \simeq$

$\frac{R_{\odot}}{R_{\text{max}}} \simeq$

$\frac{v_{\text{col}}}{c} \simeq$

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