

# Hydrodynamic Nucleosynthesis of Dual Core Flash Merger

Miroslav Mocák,<sup>1\*</sup>

<sup>1</sup>*Monash Centre for Astrophysics, School of Physics and Astronomy, Monash University, Clayton, Australia 3800*

in preparation for MNRAS

## ABSTRACT

Hydrodynamic nucleosynthesis of dual core flash ...

**Key words:** turbulence – mixing – nuclear burning – stellar evolution

## 1 INTRODUCTION

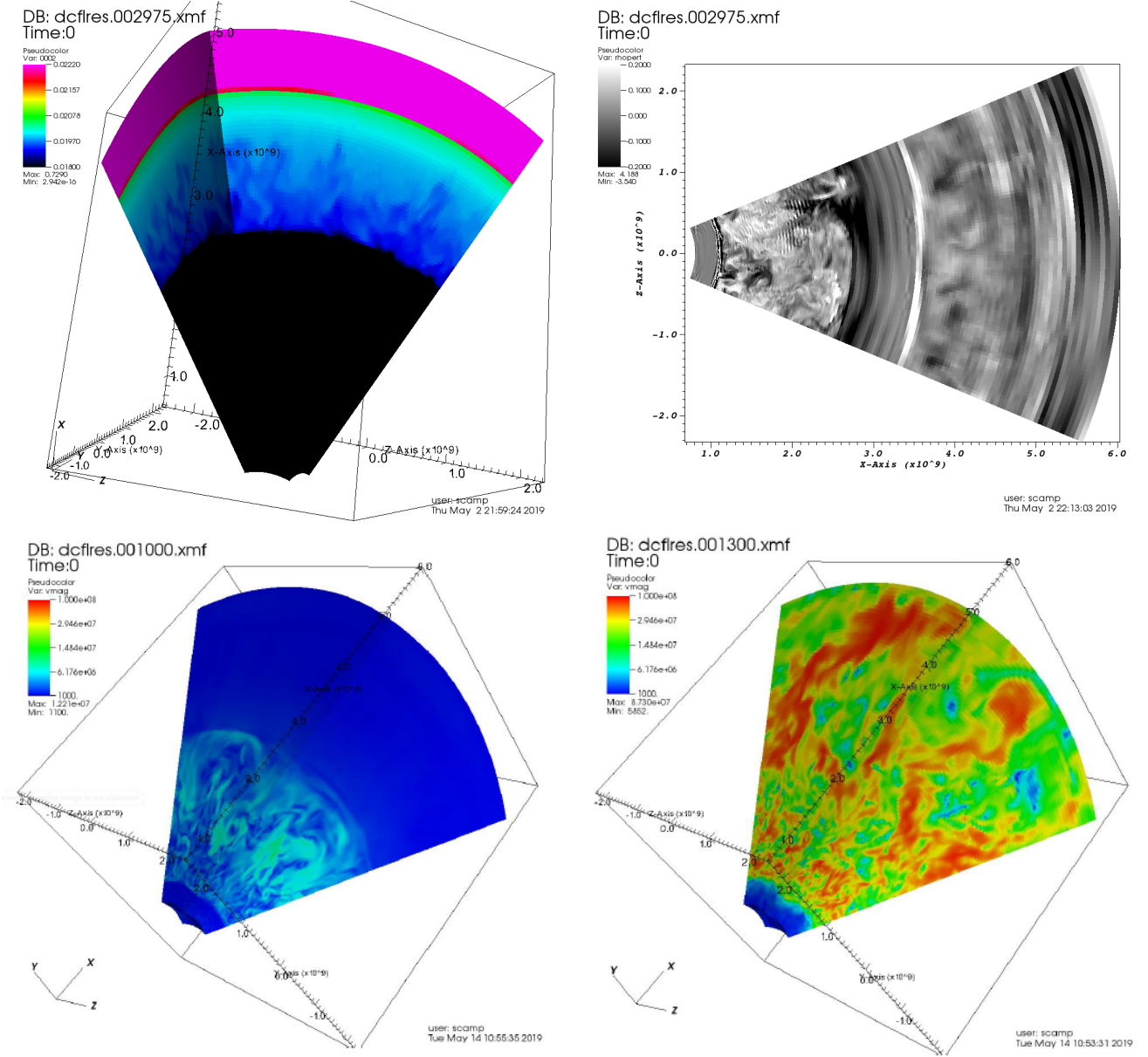
This is continuation of (Mocák et al. 2010, 2011)

## REFERENCES

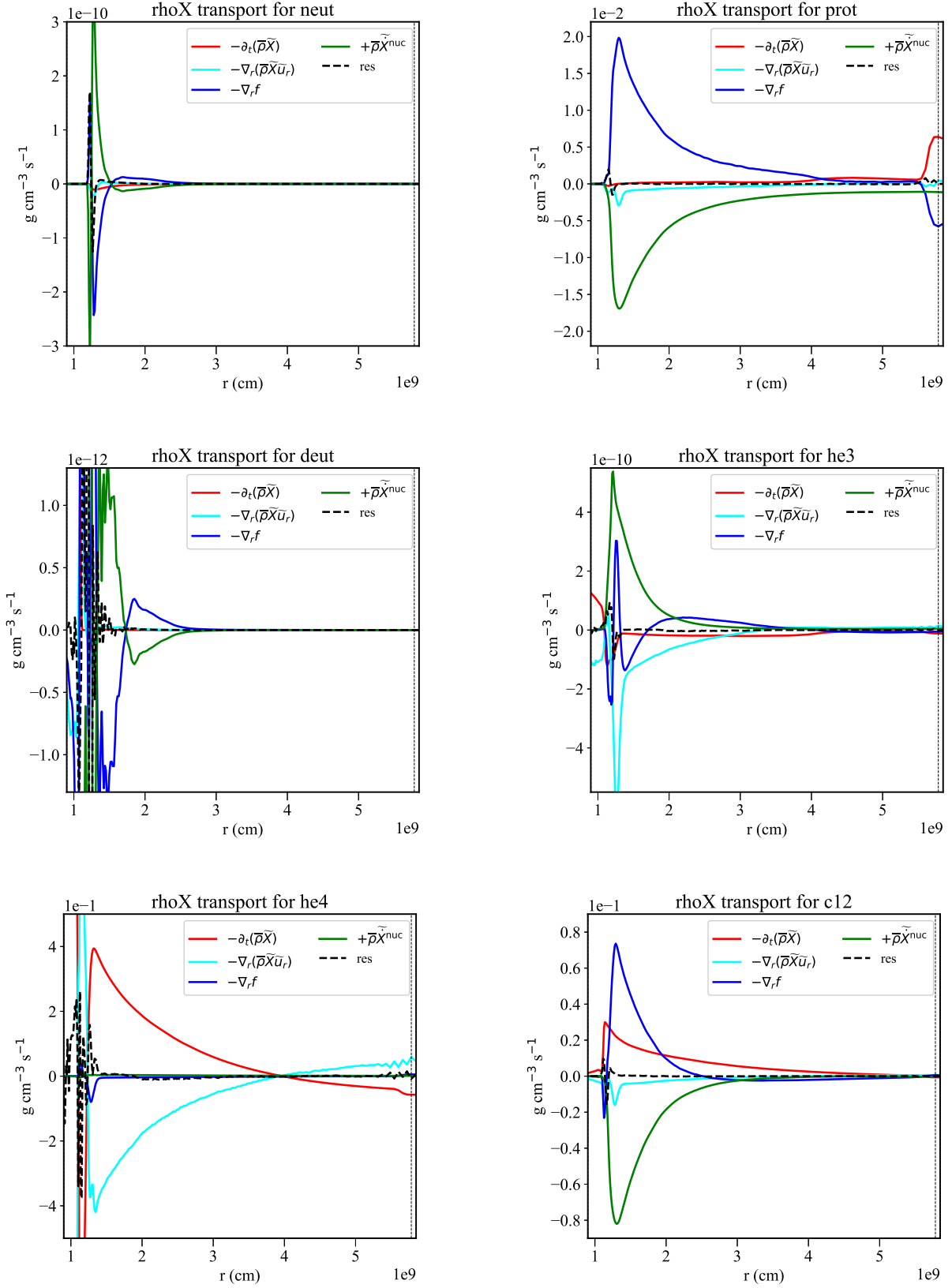
- Mocák M., Campbell S. W., Müller E., Kifonidis K., 2010, [A&A](#),  
[520](#), [A114](#)  
Mocák M., Siess L., Müller E., 2011, [A&A](#), [533](#), [A53](#)

This paper has been typeset from a T<sub>E</sub>X/L<sup>A</sup>T<sub>E</sub>X file prepared by the author.

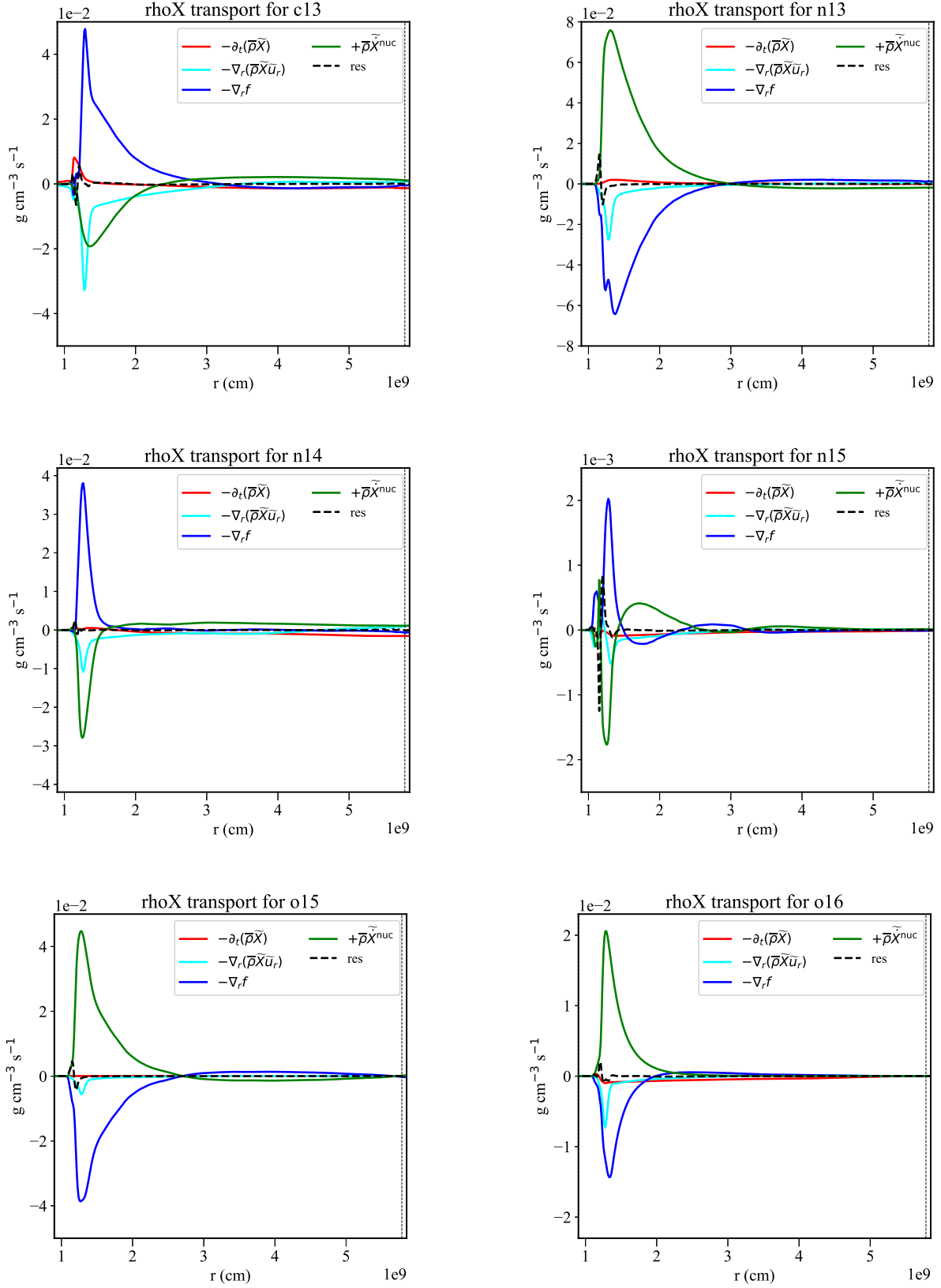
\* E-mail:miroslav.mocak@gmail.com



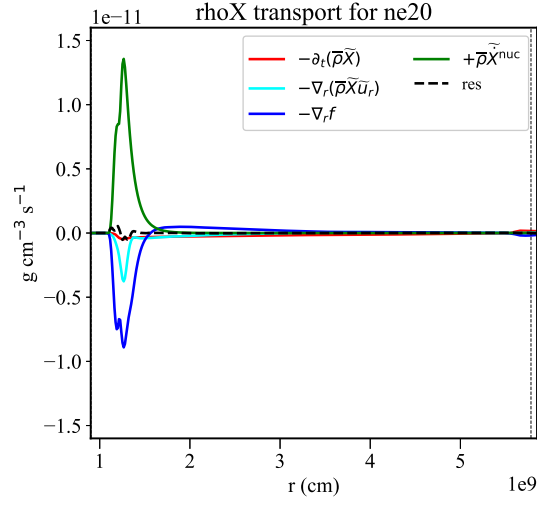
**Figure 1.** Visualization of dual core flash (192x96x96). Top-Left: H-rich layers. Top-Right: Slice through density fluctuations in the 3D model. Bottom: Velocities in the 3D model before the merger (Left), and after the merger (Right).



**Figure 2.** Transport equations for: Left-Top: Neutrons Right-Top:  $\text{H}^1$  Left-Middle:  $\text{H}^2$  Right-Middle:  $\text{He}^3$  Left-Down:  $\text{He}^4$  Right-Down:  $\text{C}^{12}$



**Figure 3.** Transport equations for: Left-Top:  $\text{C}^{13}$  Right-Top:  $\text{N}^{13}$  Left-Middle:  $\text{N}^{14}$  Right-Middle:  $\text{N}^{15}$  Left-Down:  $\text{O}^{15}$  Right-Down:  $\text{O}^{16}$



**Figure 4.** Transport equations for: Right-Down: Ne<sup>20</sup>