## Comparison of XUV stellar evolution tracks from IsoFate, FWL-Mors and Baraffe+2015 XUV model 1 : IsoFATE : adapted from Ribas+2005 (consistent for early M dwarfs) XUV model 1 : IsoFATE : adapted from Ribas+2005 XUV model 4 XUV model 2 : IsoFATE : Johnstone+2021 (G5 star, 1.0 Msun, 50 Percentile) XUV model 2 : Johnstone+2021 (1.0 Msun, 1.0 OmegaSun, downloaded from paper) XUV model 2 : Extracted from FWL-Mors using Star() class 10<sup>5</sup> --- XUV model 2 : Extracted from FWL-Mors using Lxuv() function — XUV model 3 : Baraffe+2015 ( $F_{bol}/10^3$ , 1.0 Msun) XUV model 4 : IsoFATE : Sanz-Forcada+2011 (for M to F stars) XUV model 5 : IsoFATE : HAZMAT program PROTEUS simulation using old Mors version • Earth today : t = 4 543 Myr XUV model 1 $10^{4}$ XUV Flux at 1 AU [erg $s^{-1}$ $cm^{-2}$ ] XUV model 3 XUV model 5 XUV model 2 Today $10^{1}$ **PROTEUS** simulation $10^{0}$ 10<sup>2</sup> $10^{1}$ $10^{3}$ $10^{0}$ $10^{4}$ Age [Myr]