School of Physics and Astronomy

MPhys Project
Astrophysics

AGN Host Galaxy Properties

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February 24, 2021

Abstract

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Declaration

I declare that this project and report is my own work.

Signature:  Date: February 24, 2021

Supervisor: Professor A. Lawrence, FRSE, FRaS 22 Weeks

Contents

1 Introduction

2 Fitting with Bagpipes

The parameter space minimally covered is:

- functional form of the SFH
- host galaxy redshift
- velocity dispersion
- dust attenuation curve

3 The XSHOOTER Data

TDE	Host Galaxy	RA	Dec	Mag	Hubble Morphology
AT2019qiz	WISEA J044637.88-101334.9	04:46:37.880	-10:13:34.90	15	0.01513
AT2019azh	KUG 0810+227	08:13:16.945	+22:38:54.03	15	0.022
AT2018hyz	WISEA J100650.83+014133.4	10:06:50.871	+01:41:34.08	17	0.04573
AT2019dsg	WISEA J205702.96+141216.2	20:57:02.974	+14:12:15.86	15	0.0512
iPTF16fnl	iPTF16fnl	00:29:57.010	+32:53:37.24	16	0.018
AT2019ahk	WISEA J070011.40-660224.7	07:00:11.546	-66:02:24.14	17	0.026211
ASASSN-15oi	ASASSN-15oi	20:39:09.18	-30:45:20.10	16	0.0484
AT2018fyk	LCRS B224721.6-450748	22:50:16.090	-44:51:53.50	17	0.06
ASASSN-14li	ASASSN-14li	12:48:15.23	+17:46:26.44	15	0.0206
ASASSN-14ae	ASASSN-14ae	11:08:40.12	+34:05:52.23	17	0.0436

4 Blind Testing

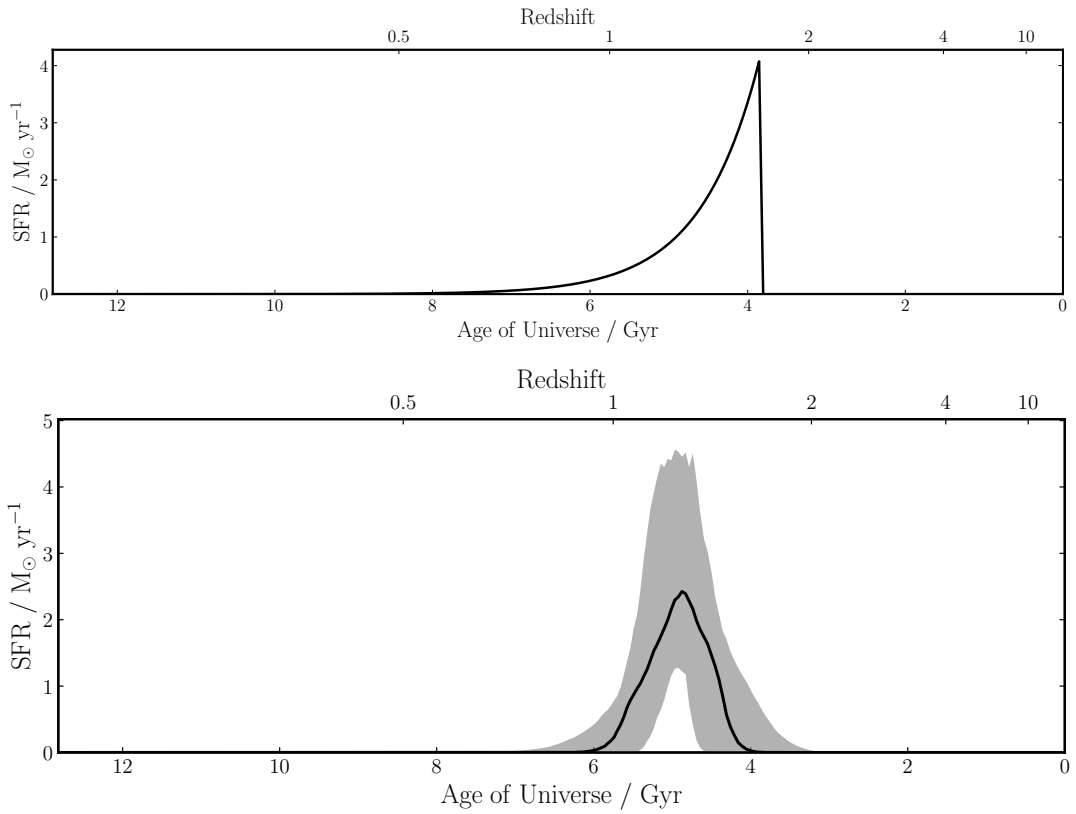

Figure 1: A priori and posterior SFH.

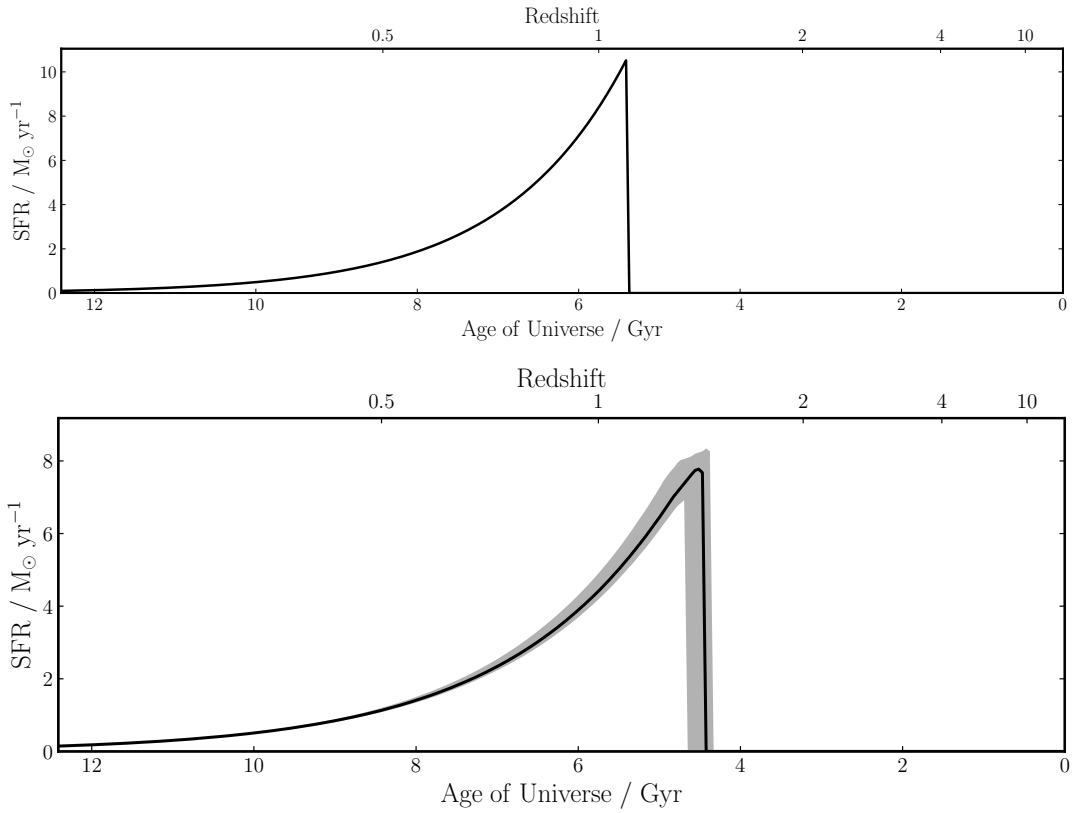

Figure 2: A priori and posterior SFH.

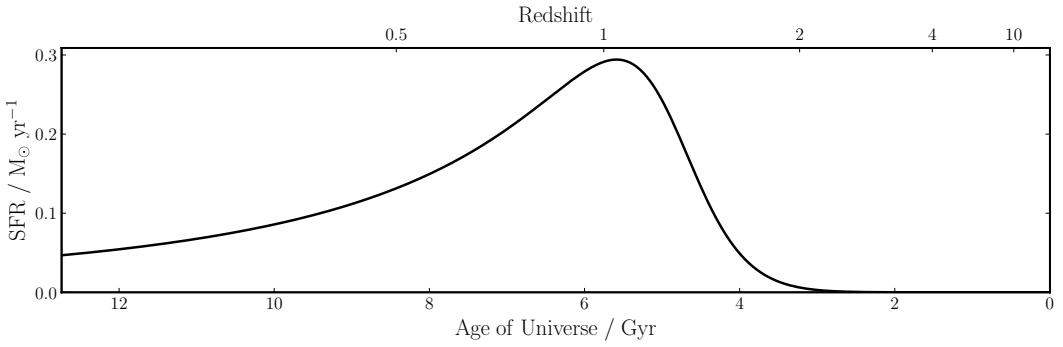

Figure 3: A priori and posterior SFH.

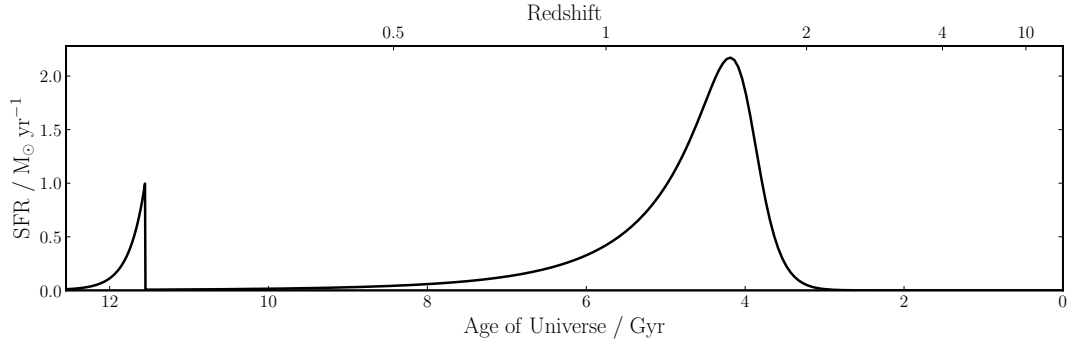

Figure 4: A priori and posterior SFH.

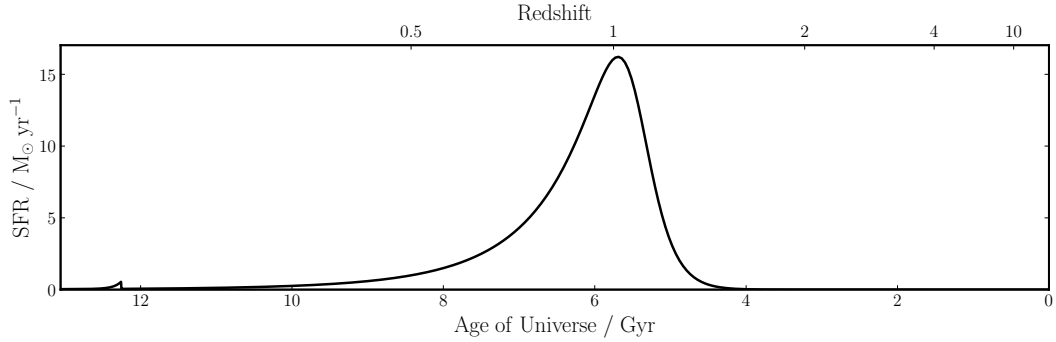

Figure 5: A priori and posterior SFH.

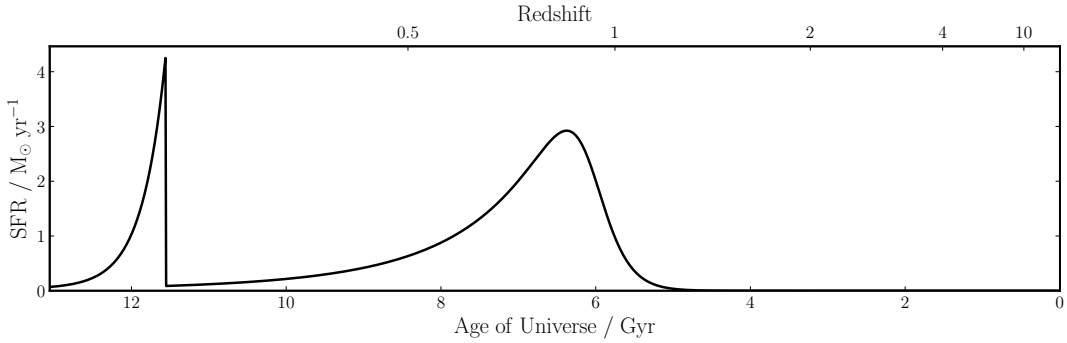

Figure 6: A priori and posterior SFH.

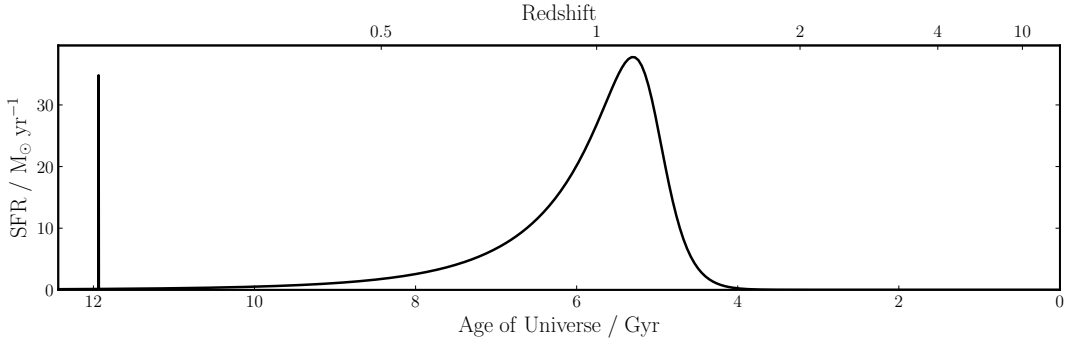

Figure 7: A priori and posterior SFH.

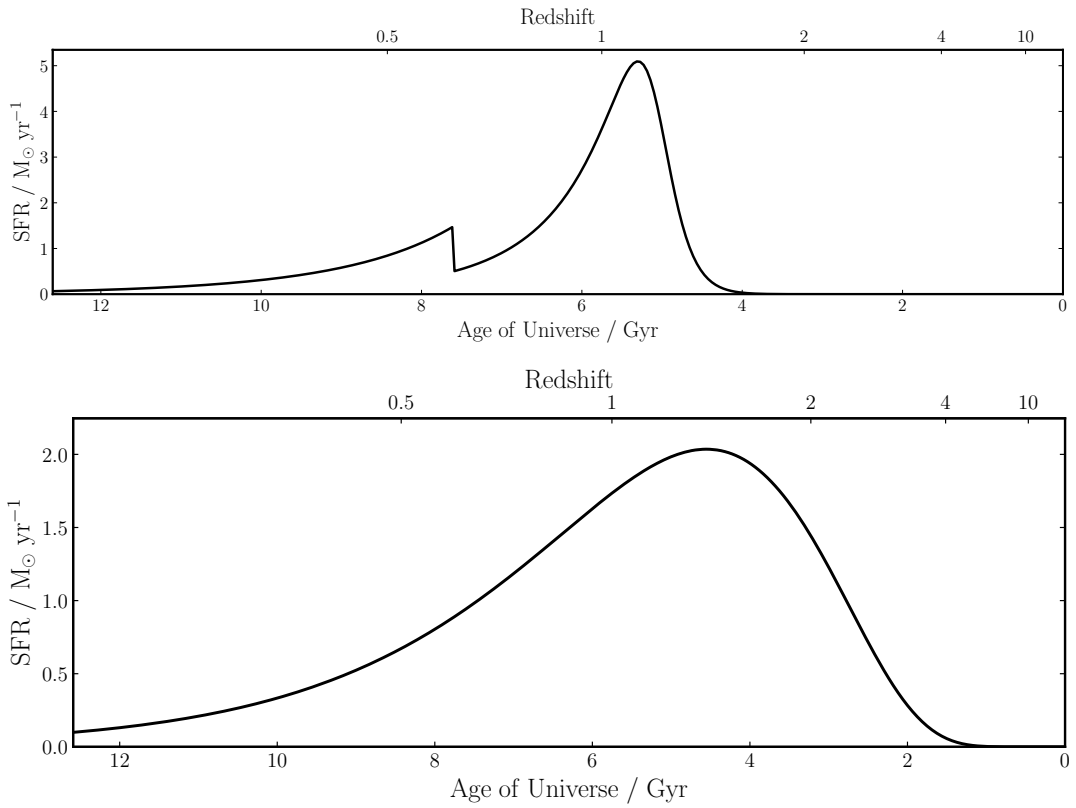

Figure 8: A priori and posterior SFH.

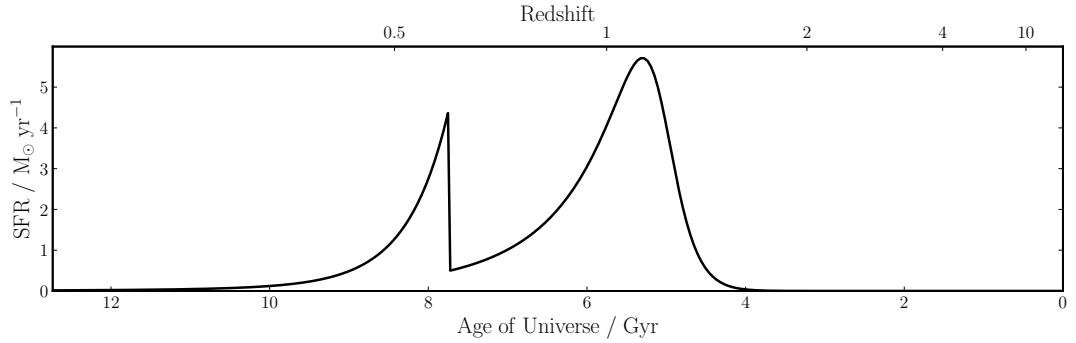

Figure 9: A priori and posterior SFH.

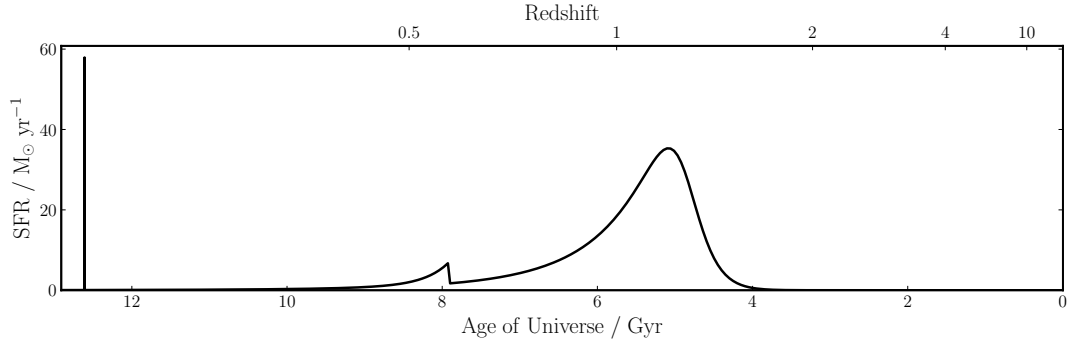

Figure 10: A priori and posterior SFH.