

SDOB7

A PERSONAL VIEW

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ABSENT FRIENDS

Many we may hope to see
again,

... but some we will not.

Darragh O'Donoghue
- a fine fellow



MY GOALS

- summarize the proceedings
 - and remember to mention everyone ...
 - evaluate what we have learnt.
 - congratulate and encourage the contributors.
 - provide pointers for future work, including sdOB8
 - be brief.
- Projected score: 0/5

☹️ Simon J. XXXX ☺️

SDC Darek x B***y Laptops. x

BETSY/LOC ♥️ Pierre Maxted // Roy ~~Star~~ Zhanwen Thomas R. Stefan & EXOTIME

SDOB1 UV upturn → SOLVED

Roy Dave's sd catalog → HAN/POT

EVOLUTION He-sdB (Simon) sdB binaries (Zhanwen)

ATMOSPHERES Analyses of sdB (SPY) FUSE data (Pierre C) AADor (sdB+MS/BD)

SDOB6 horribly lucky coffee/beer polish your mirror!

JNT MESA Xuofei 1st RLOF Zhanwen Tid. sh. BRAD Petr. M. SD1000 Pierre Chayer FUSE Marilyn BD+280 Naslim NEIRD Val. PB8783 3G

Dave's Laws:

- $YQ > KL > 1/3$
- $n_s > F_f \times n_{SOC}$, $F_f \sim 3$
- $\Delta t_{OF} = (t_1 - t_2)_{OF}^{CS} \gtrsim 31 \times 10^6 s$

BINARIES Searched: sdB → BETSY Pierre, Ralf

Fraction: Mike R } 30% Richard W } -100%

PULSATION. Searches: NOT sdB (BE.) sdO (E RL) He-sdB (Simon)

FORWARD MODELLING Angular Momentum Individual stars

JIM. ELM

sdO sdBVrs He-sdB WGen sdO

KEPLER

FM

HW VIM-long ♥️ BETSY-NEIRD

EXOTIME Mike R Roy ~~Star~~ WEIRD

Suz An Christopher Tony EC2017

Thomas B "BETSY" NCC SD 2008 V652 Hm

SDOB6

I am grateful to the IAU and the Royal Society for travel funds

IAU Colloquium 187: Exotic Stars
Miami, Florida

SDOB7 IN NUMBERS

74 delegates

17 countries

57 talks

16 posters

5 x 1 hour discussion sessions

~60 pages of notes

370 lunches

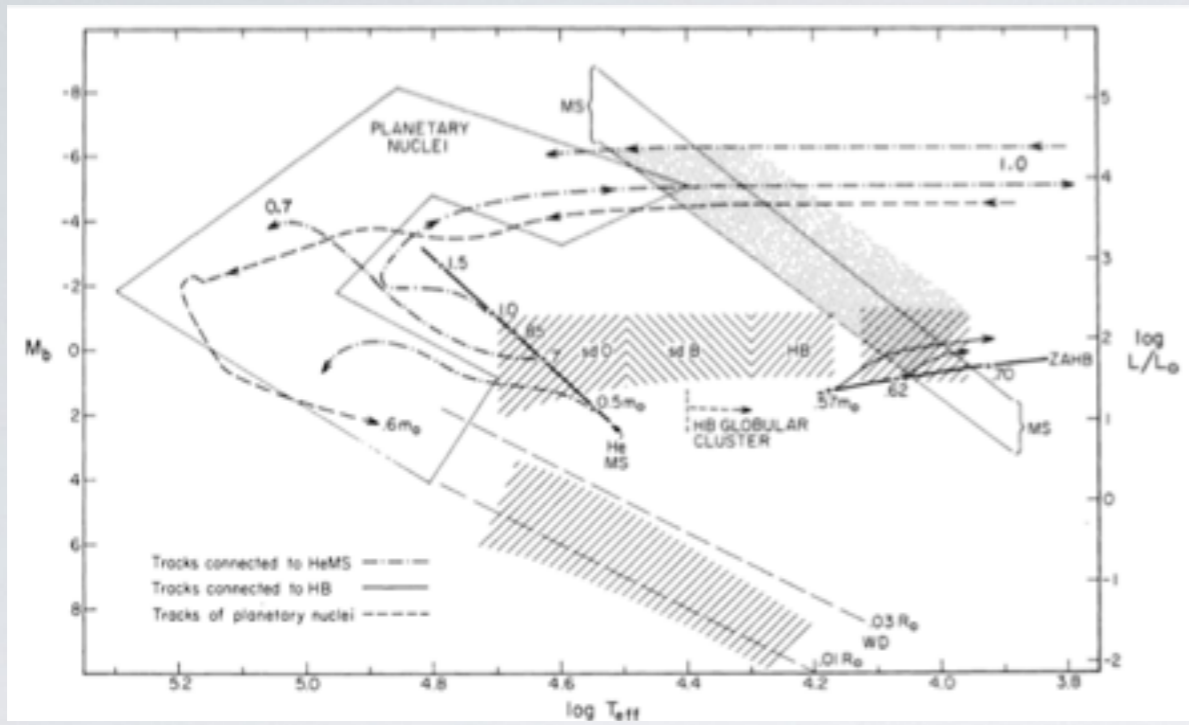
740 teas and coffees

$O(10^3)$ pints of beer

many new faces

many young faces

WHAT IS AN SBD STAR?



1974

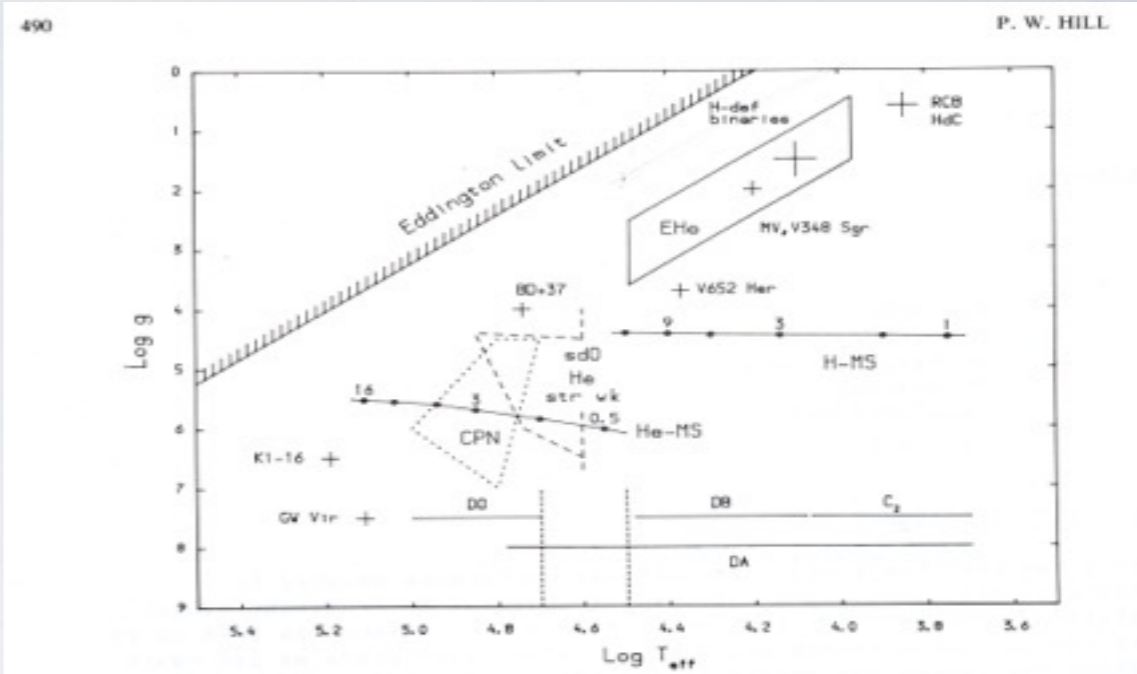
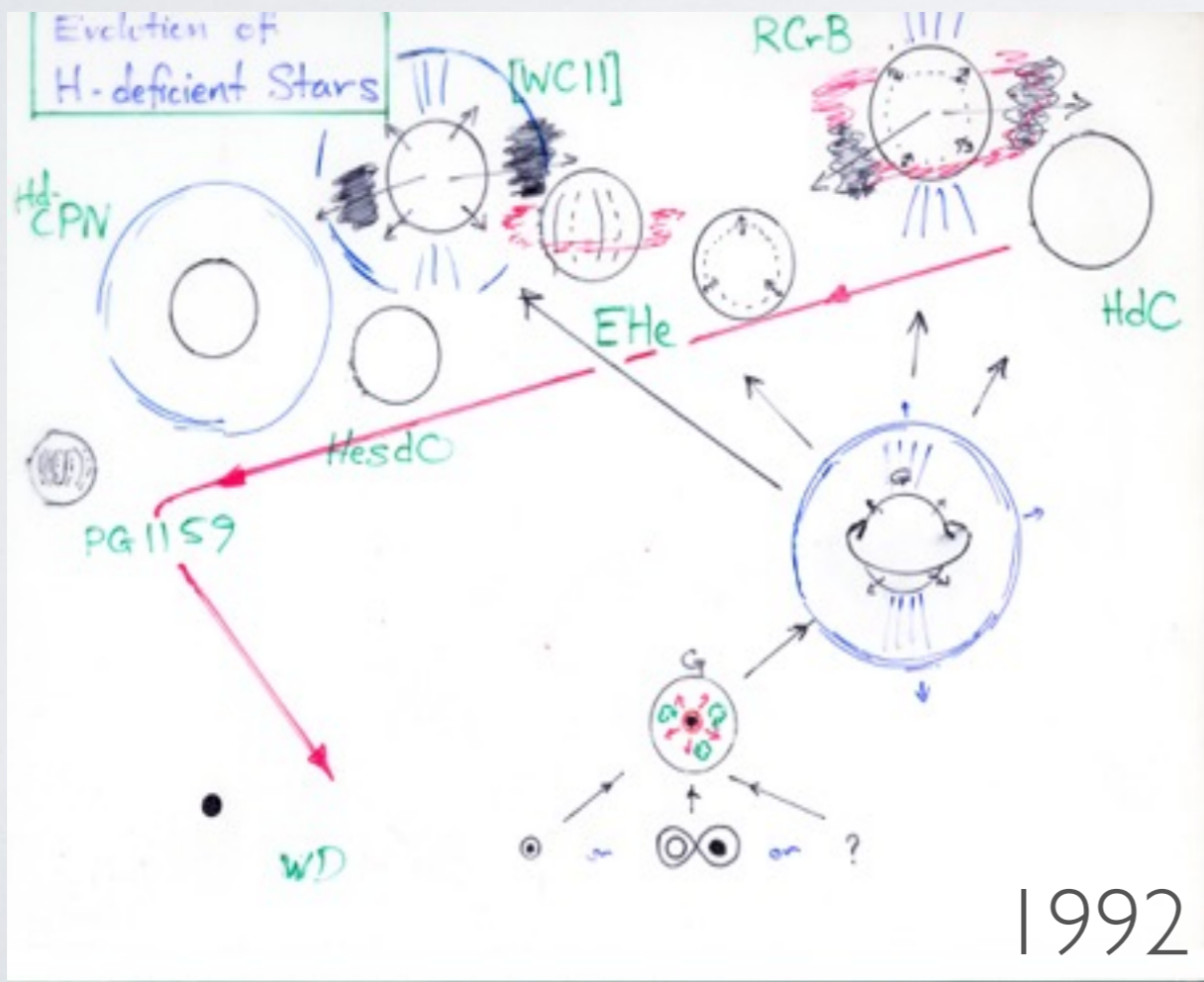
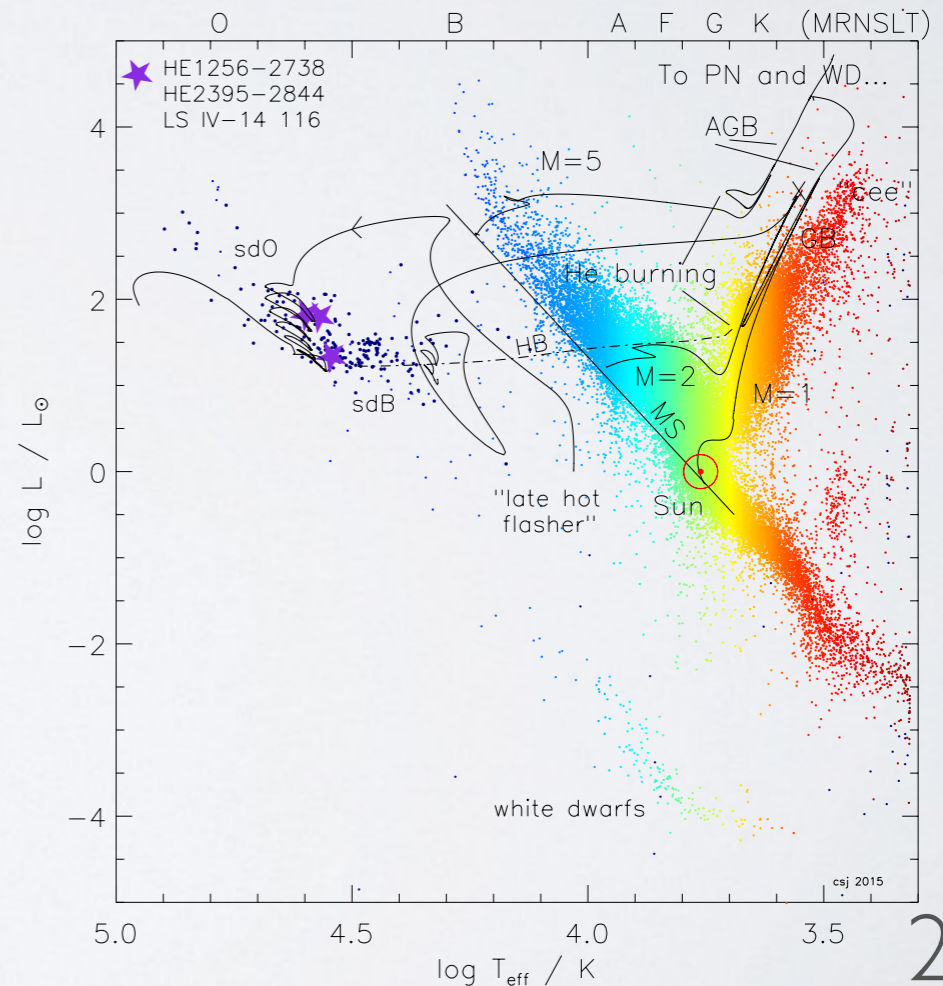


Figure 1. The $\log g - \log T_{\text{eff}}$ diagram for low-mass hydrogen-deficient stars. The objects and regions shown are indicative rather than definitive.

1986



1992



2015

SDOBS OLD AND NEW

BD+37 442¹

HW Vir

NN Ser

AA Dor

CS 1246

PG 1336-018

J0247-25

V652 Her

J08300+47515 + friends

M4 - UVBS2

ROB 162

HD 49798, BD+37 1977, BD+28 4211

φ Per

2M1938+4603

V471 Tau, HU Aqr

KPD1943+4058,

KPD0629-0016

US708, J1231 et al.

HE2359-2844 et al.

KIC abcdefgh ...

HD 188112



I. first star I ever observed - IAU Colloquium 18
Leslie Rose Telescope : St Andrews Miami, Fla



GUEST STARS

Tycho B

GW Vir

GD 165 et al.

RE03 17-853 +



SURVEYS

PG

HQS

EC

SPY

GALEX

omega Cen

SDSS, SEGUE, BOSS

ELM

MUCHFUSS, hyper-MUCHFUSS

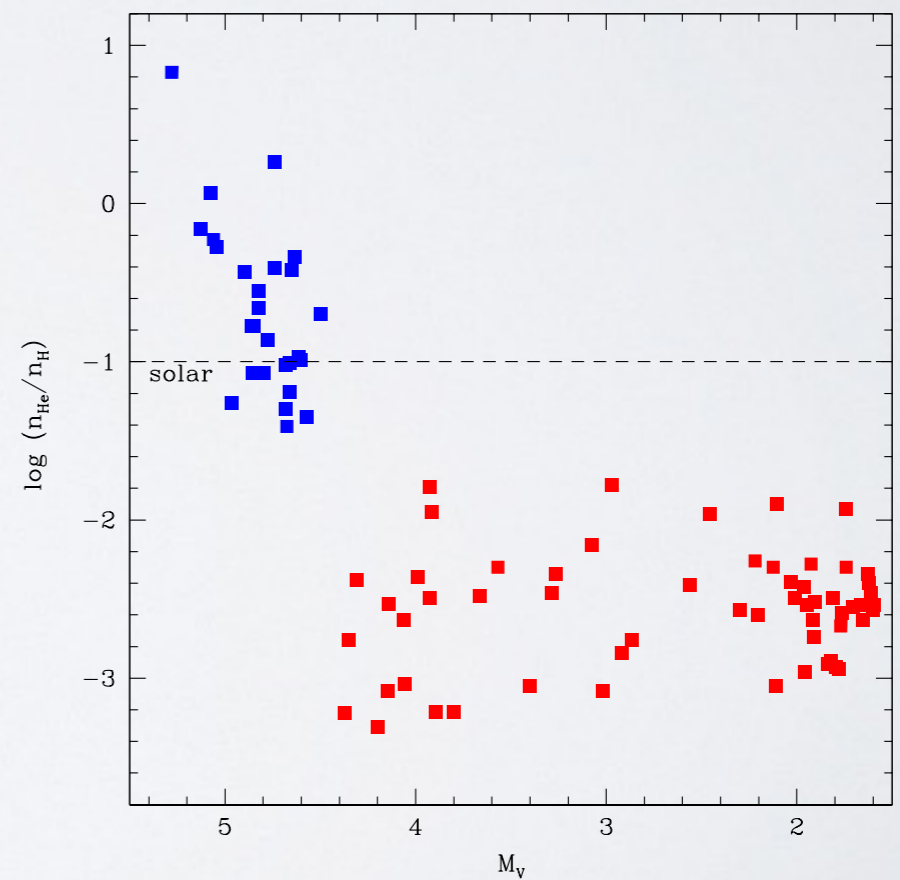
EREBOS

MERCATOR ...

... GAIA

FAMILIAR SDOOB FARE

- binaries ...
- asteroseismology ...
- old populations ...
- kinematics ...
- rotation
- abundances ...



Moehler

SURPRISES

- sdBVg - with no multiplets
- CS 1246 - disappearing pulsations (not unique)
- Zeeman splitting in He-sdOs
- g -Teff for sdB+dM different to $\langle \text{sdB} \rangle$
- $e \sim P$ for long-period sdB binaries
- KI-27 has $T_{\text{eff}} = 135\text{kK}$ (neon)

TECHNIQUES / INSTRUMENTS

- AA Dor — velocity of heated secondary surface
- XTGrid — tools for the large survey era
- Plato 2, GAIA, BlackGEM, ...
- SPECTRUM - PULS

“NEW” TOPICS

Red-giant cores

EL CVn binaries

ELM white dwarfs

White dwarfs

SNe Ia

Dark Matter Interactions

MERGERS

- more popular !
- more sophisticated ...
- but we should keep an open mind

DISCUSSION + POSTERS + MOVIES

HEARD IN CONVERSATION

JJ — my title may sound a bit confrontational, partly because it uses the word “confronting”

Conny — you want me to choose between g-modes or planets? ... come on!

Peter — lots of consistency checks are required to make a well-calibrated sample homogeneous

Anon — Earth (is there any planet that everyone will agree on?)

Stefan — is this really a paper that is going to be published, one we can read and cite?

Sabine — its always easy to suggest to other people what to do

Uli — I am Johannes Schaffenroth

Stephen — at the edge of what the predictions might have predicted

Matt — so what does this mean for stellar evolution ?

QUESTIONS

How well do we know sdB core masses and boundaries ?

Are there planets around hot subdwarfs ?

What are the distributions of He-sdO stars / where is He-sdO clump?

DISK / HALO ?

What drives pulsators in ω Cen ?

What produces high- v sdOB stars ?

How many ELM WDs are there and where are they ?

MIXING

SDOB8

Andrzej Baran has invited the sdOB community to
Krakow, Poland,
in 2017

THANKS

Tony
Philipp
Leanne

