

WALLABY Memo 21: IAU-compliant Source Naming Scheme for WALLABY HI Detections

Version 1.1 — 5 September 2018

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1 Introduction

This document outlines the IAU-compliant source naming scheme to be applied to all HI detections produced by the WALLABY survey. The WALLABY survey acronym was officially registered with the IAU in mid-2018.¹

2 Naming scheme

The following source naming scheme is to be used for all HI detections made by the full WALLABY survey or any of its early-science or pilot surveys:

WALLABY JHHMMSS±DDMMSS

This name consists of the acronym **WALLABY** (in capital letters) followed by a space and the letter **J** (for Julian epoch). The remainder of the source name is made up of the source coordinate in the **J2000 equatorial system**, namely the zero-padded integer hours (**HH**), minutes (**MM**) and seconds (**SS**) of right ascension followed by the declination sign character **+** or **-** (ASCII hyphen-minus) followed by the zero-padded integer degrees (**DD**), arcminutes (**MM**) and arcseconds (**SS**) of declination.

Note that the IAU requires all coordinates to be **truncated** rather than rounded.² As an example, an HI source at the coordinate of $\alpha = 08^{\text{h}}30^{\text{m}}17^{\text{s}}.86$ and $\delta = -30^{\circ}25'01''.9$ would be named

WALLABY J083017-302501

with the seconds of right ascension and arcseconds of declination truncated to **17** and **01**, respectively, rather than rounded to **18** and **02**.

The naming scheme will allow source positions to be specified with an accuracy of 1" in declination and $15'' \times \cos(\delta)$ in right ascension, which should be sufficient to ensure that each WALLABY detection be given a unique identifier. Once a source has been named, its name **must not be altered** (e.g. by updating the position based on a more accurate measurement). This is to ensure that the name serves as a permanent and unique identifier for the source.

3 References

1. *Dictionary of Nomenclature of Celestial Objects*, version of 30 August 2018
<http://cds.u-strasbg.fr/cgi-bin/Dic?WALLABY>
2. *IAU Recommendations for Nomenclature*, version of 26 November 2008
<http://cdsarc.u-strasbg.fr/vizier/Dic/iau-spec.htx>