

Dust Effects on the Central Offset of Galaxies



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CONTENTS

- ▶ INTRODUCTION
- ▶ DATA & ANALYSIS
- ▶ RESULT & DISCUSSION
 - ▶ CENTRAL OFFSET PROPERTIES
 - ▶ CENTRAL OFFSET VS DUST
 - ▶ REMOVING DUST

INTRODUCTION

- ▶ Asymmetry of the whole galaxy scale
 - ▶ Higher asymmetry in the late-type galaxies
 - ▶ Caused by spiral arms, HII region and dust
(de Vaucouleurs and Freeman 1972; Conselice et al. 2000; Yagi et al. 2006)
- ▶ Central asymmetry
 - ▶ The first double nuclei indication of M31 (Light et al. 1974)
 - ▶ High asymmetry in the central region of elliptical (Conselice et al. 2000)

DATA & ANALYSIS

▶ DATA

- ▶ 68 nearby galaxies (~ 25 Mpc)
- ▶ HST/WFPCII images ($0.''0455/\text{pixel}$)
- ▶ Center should be observed with PC
- ▶ In two filters

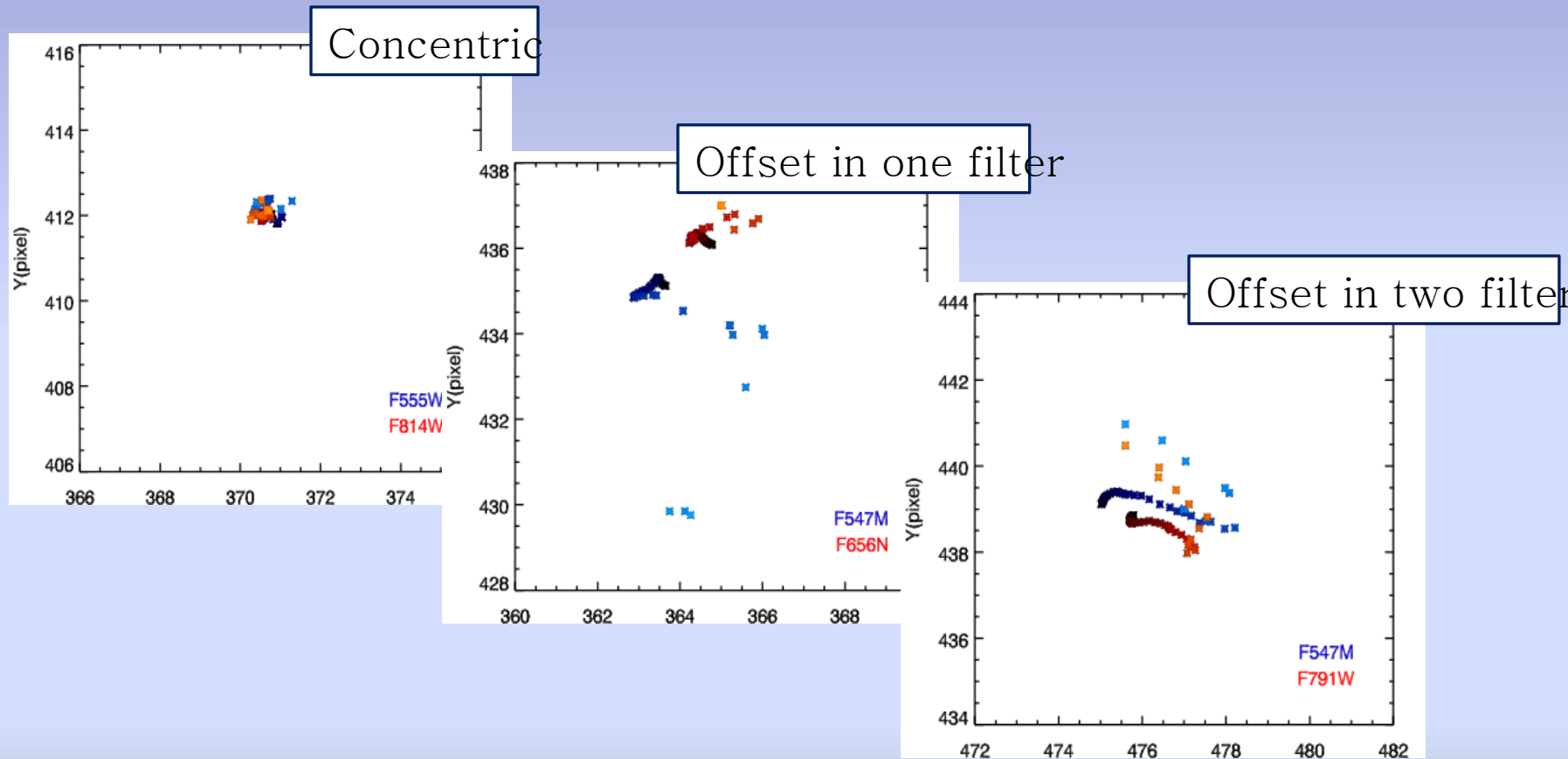
▶ ANALYSIS

- ▶ Offset by isophote center
- ▶ Central images divided by a reconstructed model from surface photometry
- ▶ Removing process of dust from reconstructed model



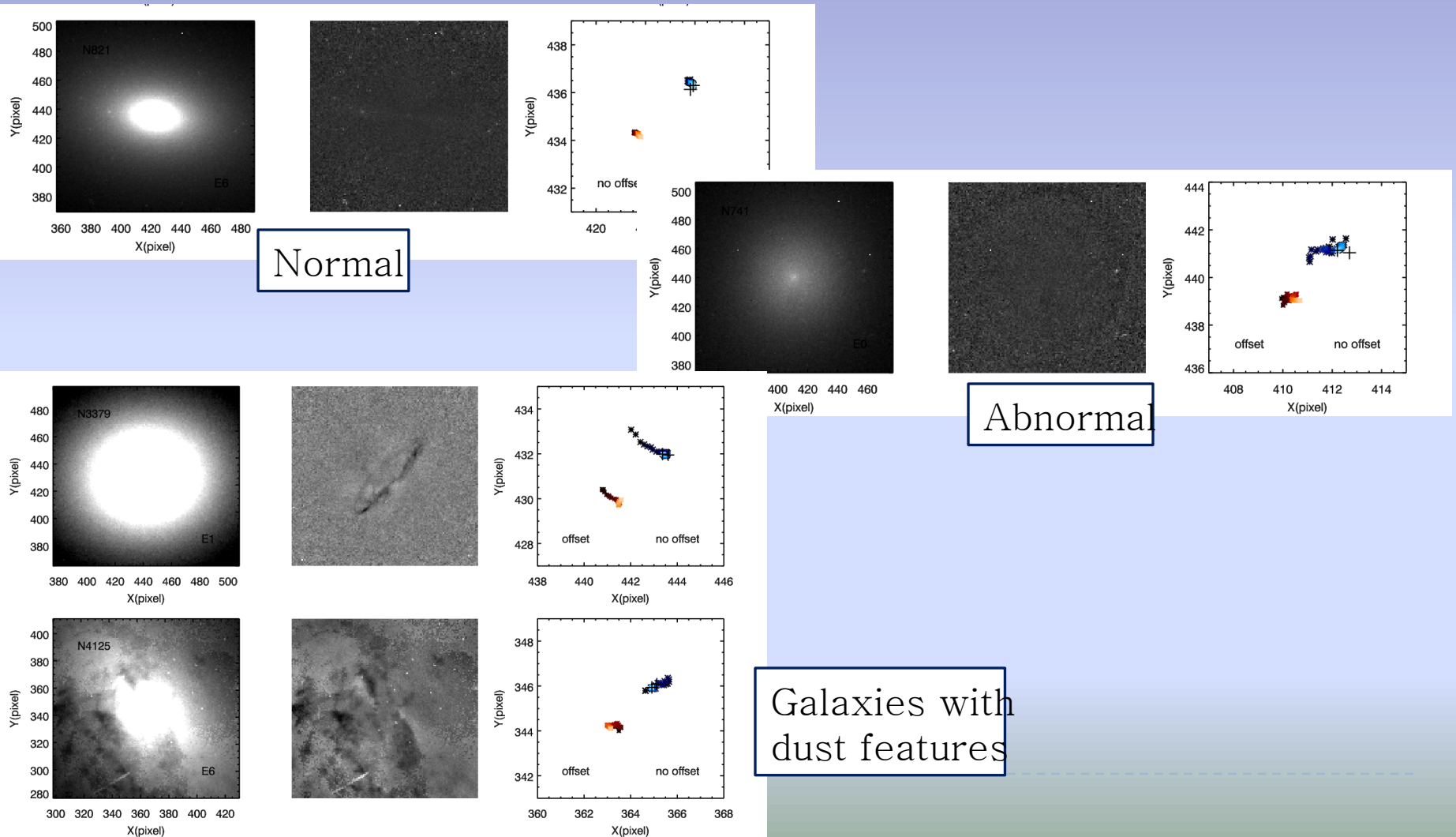
RESULTS & DISCUSSION 1

► Central offset properties



RESULTS & DISCUSSION 2

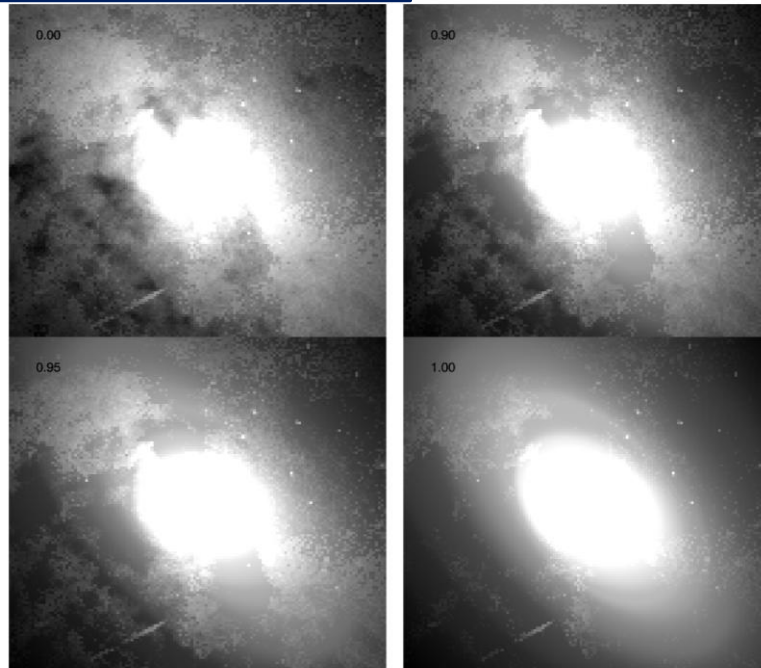
► Central offset Vs dust



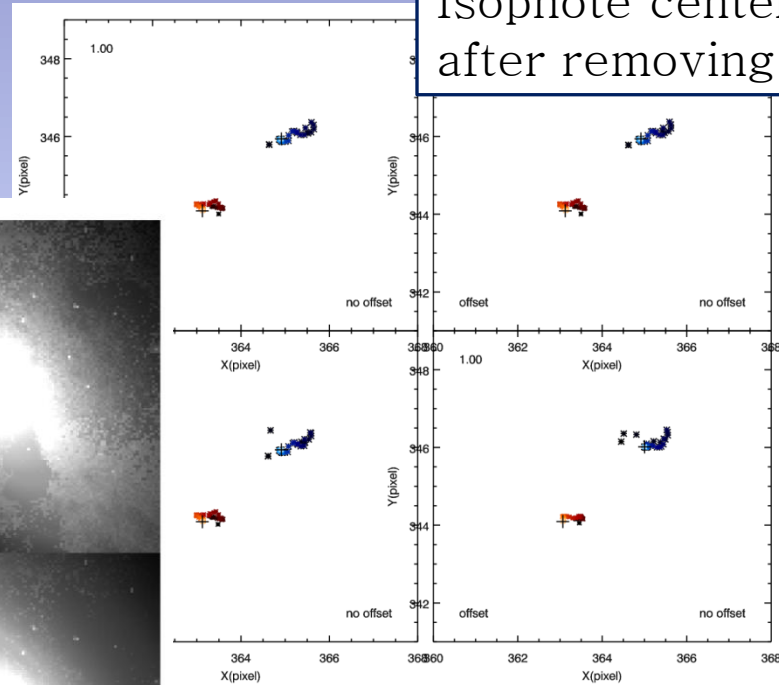
RESULTS & DISCUSSION 3

► Removing dust

Images removed dust



Isophote centers
after removing dust



Dust features

