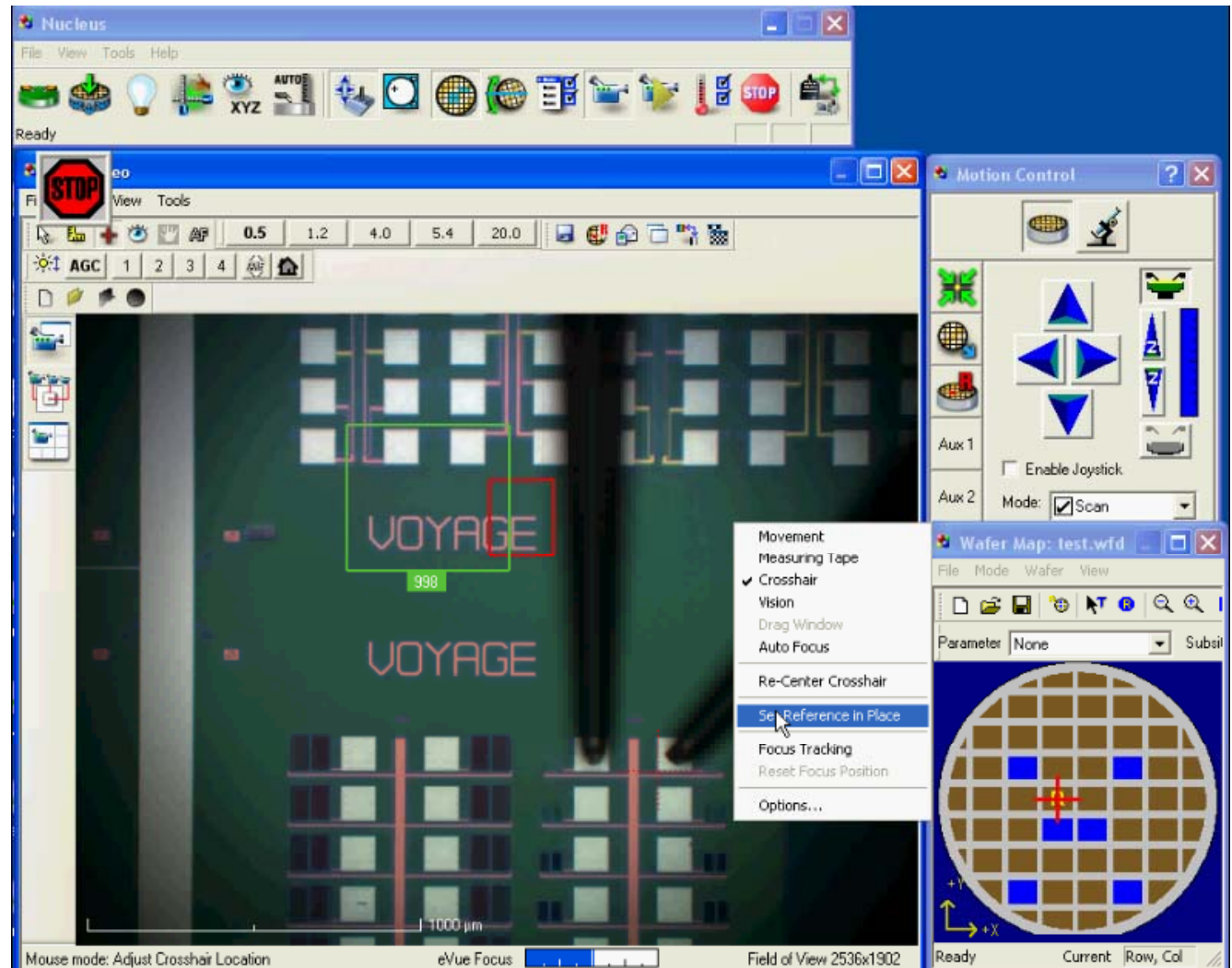


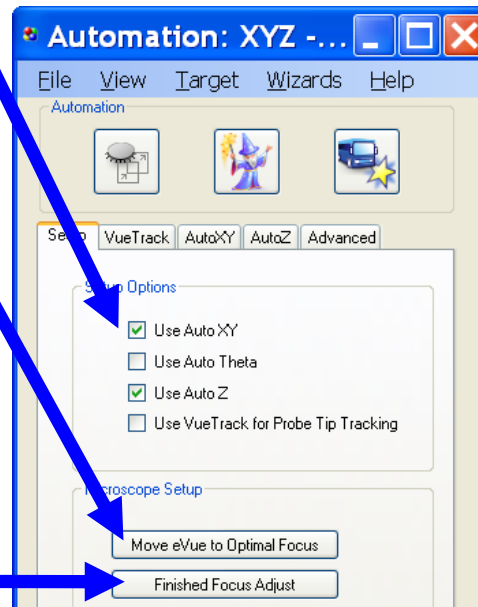
AUTO XYZ – Setting Up

- Pre-setup
 - Align wafer & Create wafer map
 - At Reference Die, Select Set Reference in Place
 - Probes on Test Pads
 - Platen down



AUTO XYZ – Setting Up

- Launch Auto XYZ
- Select Use AutoXY, AutoZ
- Move eVue to Optimal Focus (Set Microscope motorized Z to optimal height)
- Make adjustments to keep wafer in focus (**Manual Focus Block** or **Z axis of microscope Transport**)
- Finished Focus adjust

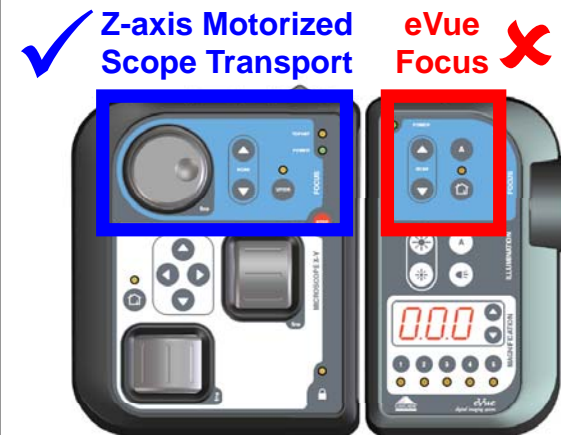


Probe Stations **without** Programmable Motorized Microscope Transport



Manual Focus Block ✓

Probe Stations **with** Programmable Motorized Microscope Transport

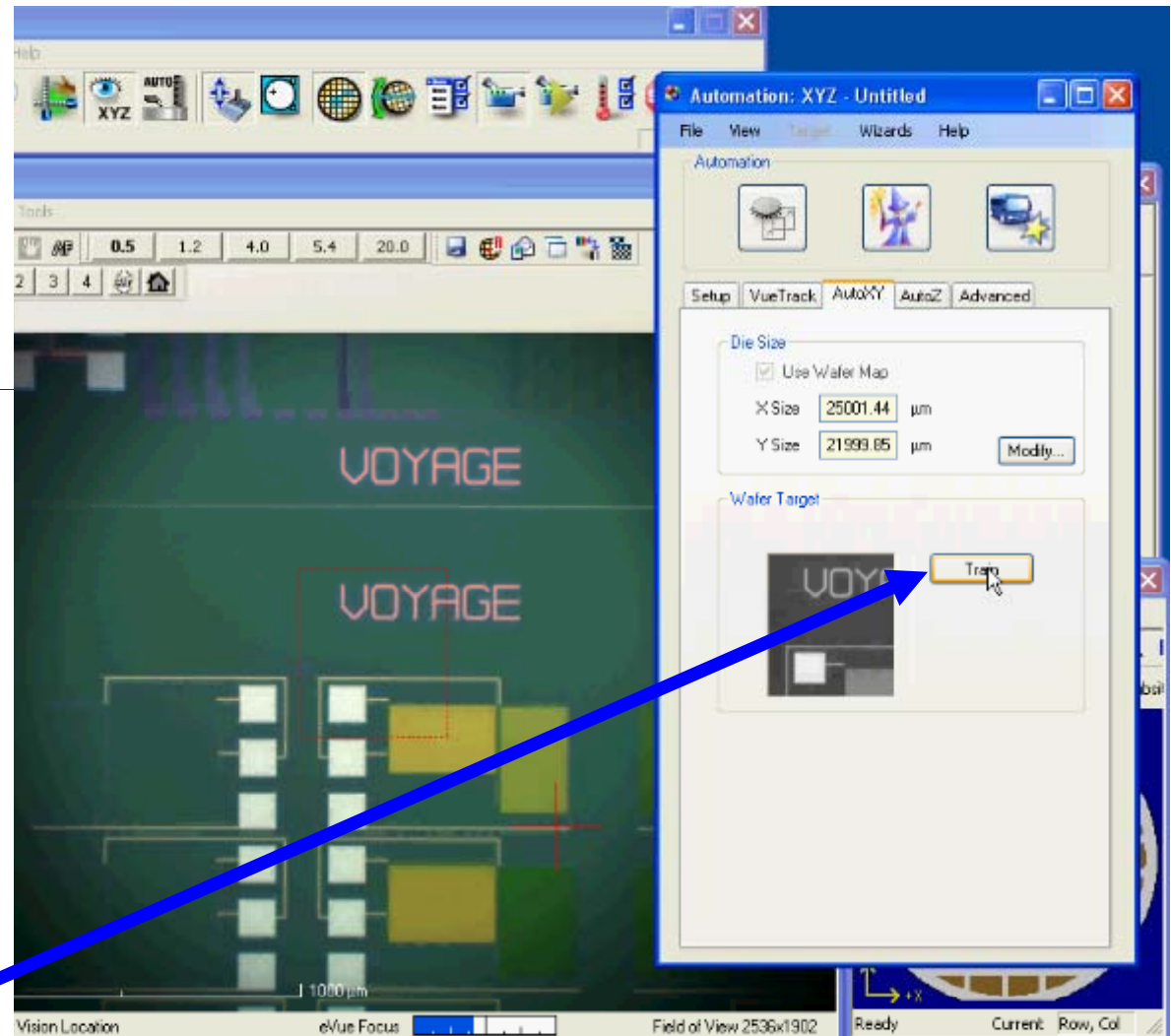


✓ Z-axis Motorized Scope Transport

eVue Focus ✗

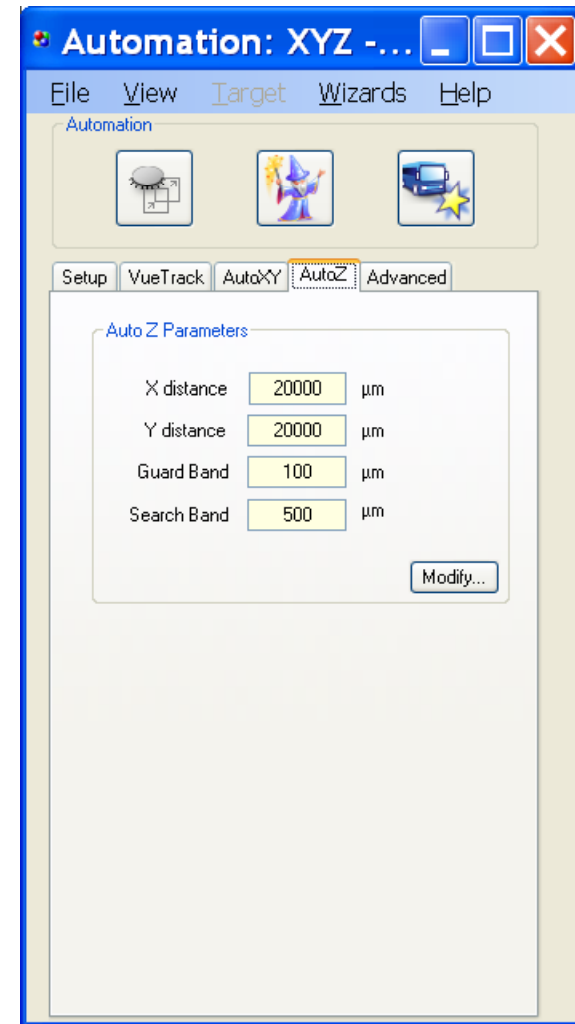
AUTO XY

- After Finishing Focus Adjust, Nucleus prompt for wafer target training.
- Choosing a Wafer Target
 - User can train at the reference die position
 - OR
 - User can move chuck to unique feature (Nucleus remembers Chuck XY offset)
 - OR
 - User can move microscope to unique feature (Nucleus remembers the microscope XY offset)
- Click on Train to train target



AUTO Z Settings

- **X and Y Distance** – define rectangular region used to determine whether another Auto-Focus operation is required. For eg, if the stage has moved more than micron value entered for X or Y since the last Auto-Focus, any die move will trigger another Auto-Focus operation. This ensures that an Auto-Focus is done for every die (or user defined region). The X value defines the amount of horizontal distance to the left and right of the last Auto-Focus location. For eg, if the X value is set at 20000, the distance is 20000 to the left and 20000 to the right, for a total of 40000. The Y value operates in the same manner. These values updates with the die size when a wafer map is opened. A Zero value for distance indicates that every absolute move activates an Auto-Focus.
- **Guard Band** – this value represents a tolerable amount of error between auto-focus operations to prevent damaging probes during Auto-Focus. For example, if the guard band value is set at 50, and the difference between the last contact and the new contact is more than 50, an error message will result.
- **Search Band** – this value represents the region used by the Auto-Focus function uses to find the best focus. For example, if Search Band is set at 100, a distance of 200 (+100/-100) microns above and below the current location will be used. Smaller values result in faster searches. Larger values are required when the contact height changes more radically (e.g., high or low probing temperatures).

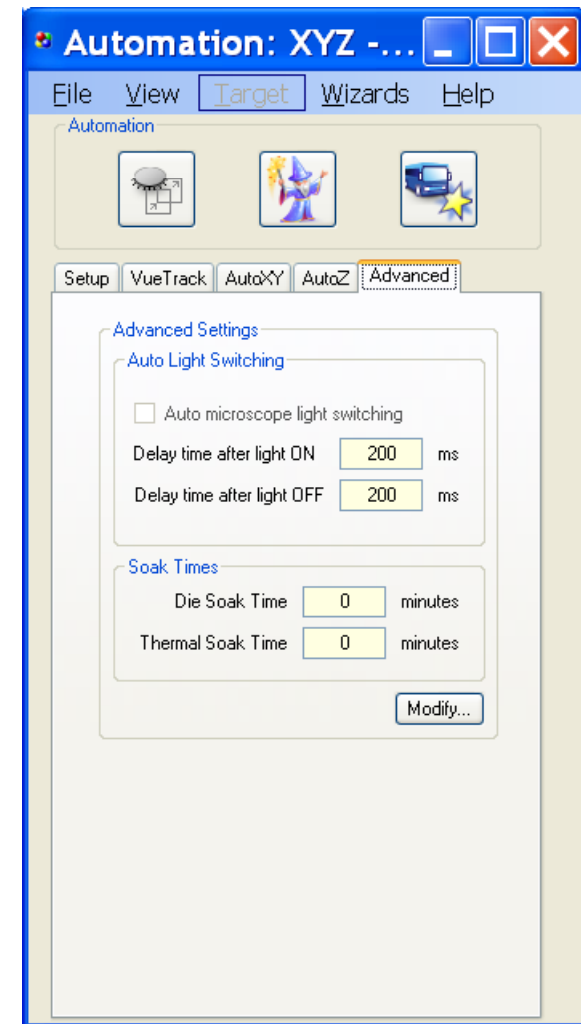


■ Advanced Settings

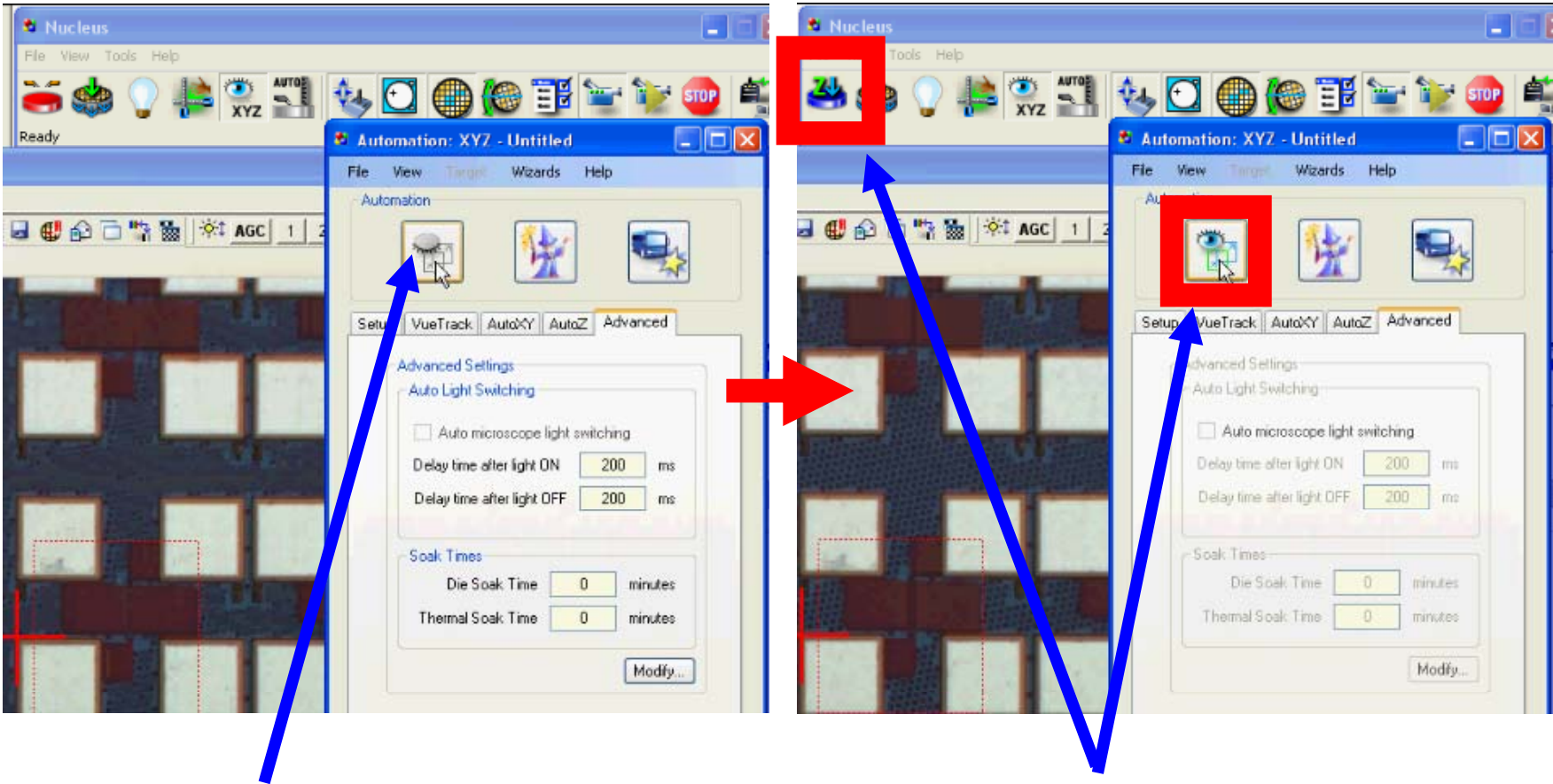
- **Auto Microscope Light Switching** – select to enable automatic on/off light switching during device test. When selected, the light is turned on (automatically) only for Vision operations (e.g., Vision correction during a commanded chuck movement).
- **Delay time after light ON** – the amount of time Vision operations are delayed after turning the light ON. Some light sources take time to stabilize; the delay allows time for the light to settle.
- **Delay time after light OFF** – the amount of time Vision operations are delayed after turning the light OFF. The delay allows any residual effects from the light to dissipate before testing starts.

Die and Thermal Soak Time requires VueTrack and High Thermal Stability Hardware for Unattended Over-temperature Measurements

- **Die Soak Time** – the amount of time the system waits at the destination location before making contact. This pause allows the probes to reach a thermal equilibrium before making contact with wafer. The soak time selected here applies to any move.
- **Thermal Soak Time** – the amount of time the system waits after making a thermal transition. For example, if the system is transitioning from 25°C to 200°C, the setting here determines the amount of time the system will wait after reaching 200°C before making contact.



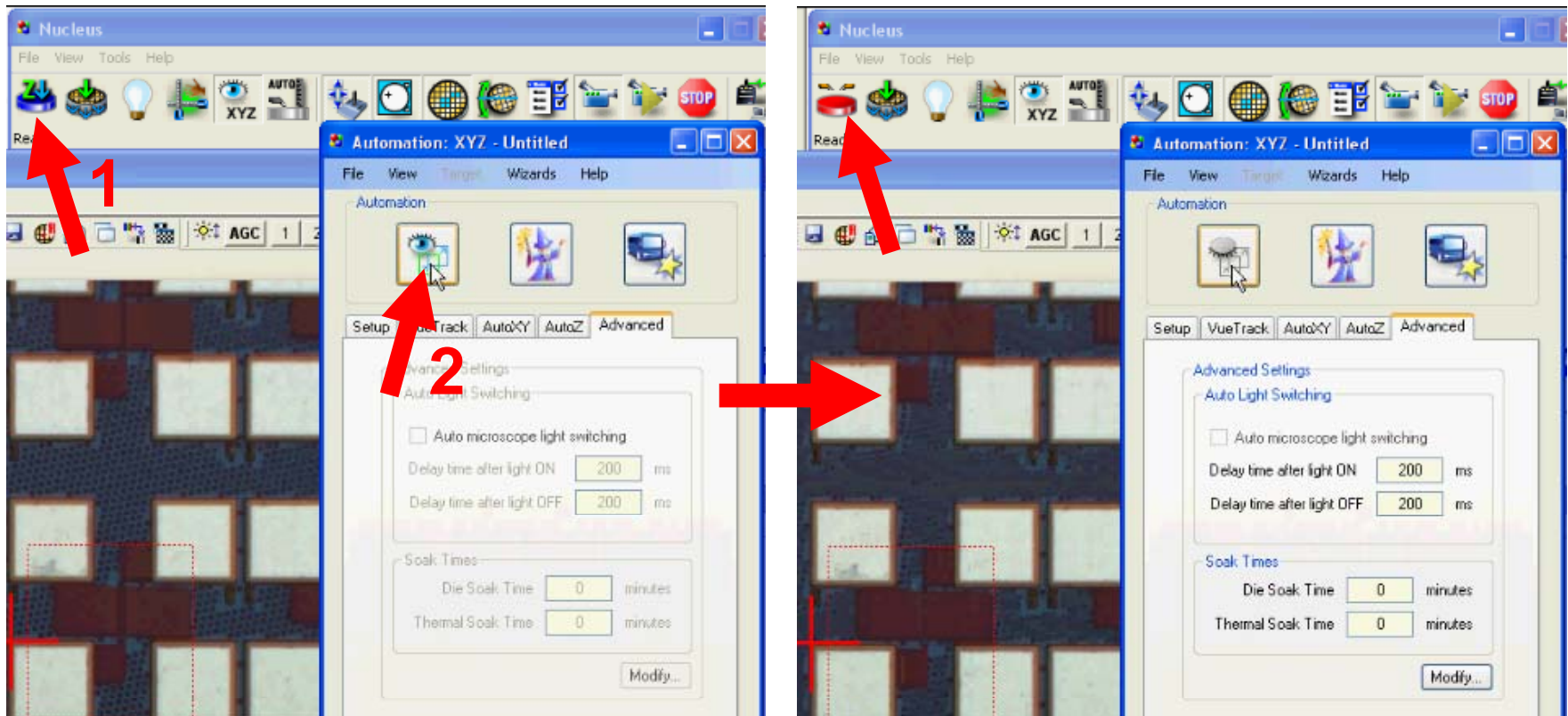
■ Activating AUTO XYZ



Click to activate AUTO XYZ after completing all setup

AutoXYZ is activated and chuck shows dynamic Z

Deactivating AUTO XYZ



1. Click to deactivate dynamic contact height.
2. Click to deactivate AUTO XYZ

Click to bring chuck to contact position

■ VueTrack™ – Probe to Pad Alignment

- Wafer aligned and Probes aligned to test structures
- Probe Tips XYZ correction
 - Wafer lowered to train probe tips
 - eVue scanned in Z axis
 - Probe Tips XYZ positions are recorded
- Wafer XYZ correction
 - Wafer target trained (X&Y)
 - eVue Auto-focus finds wafer Z height
- Die-to-Die Step & Repeat
 - Probe to Pad Alignment (PTPA)
 - Correct Probe XYZ
 - Correct Wafer XYZ

