# MATLAB Skin Thickness & AUC Analysis

## 📌 Overview

This MATLAB script processes `.nd2` image files to:

- Extract \*\*skin thickness\*\* using Z-step size and slice count.

- Compute \*\*Area Under Curve (AUC)\*\* for fluorescence intensity.

- Generate a \*\*cumulative skin thickness vs. AUC graph\*\* for better data interpretation.

## 🛠️ Features

✅ Automatic extraction of Z-stack metadata

✅ Accurate skin thickness calculation

✅ AUC computation for fluorescence quantification

✅ Sequential representation of skin thickness in the x-axis

## 📂 File Structure

- `main\_script.m` → The primary MATLAB script

- `LICENSE.txt` → Legal usage details

- `README.md` → Instructions and usage guide

## 🖥️ Installation & Requirements

1. Install \*\*MATLAB\*\* (R2024b or later recommended).

2. Add \*\*Bio-Formats Toolbox\*\* to your MATLAB path:

```matlab

addpath('C:\Program Files\MATLAB\R2024b\bfmatlab\bfmatlab');