



Simulation Summary Report

Project Title: Lamina under tension

Description: 2D, Stress Analysis, Orthotropic, Quasi-Static

Created By: pmasscasestudies

Project Created: 01/04/2023-00:07

Report Created: 10/31/2023-10:18

Analysis Type: Stress Analysis

Solver: quasi-static

Dimension: 2

```
{"project_name": "Lamina under tension", "dateTime": {"month": "01", "hour": "00", "year": "2023", "day": "04", "minute": "07"}, "feModels": [], "materials": [{"density": 0.0027, "elastic_properties": {"G12": 5020, "nu12": 0.32, "E1": 164300, "E2": 8977}, "name": "mat1", "failure_parameters": {"Scr": 0, "Xc": 0, "type": "Critical-Stretch", "Eccr": 0, "ft": 0, "S23": 0, "Stcr": 0, "w0": 0, "Xt": 0, "s0": 1, "Etc": 0, "ef": 0, "c": 0, "Yc": 0, "D1": 0, "D2": 0, "D3": 0, "D4": 0, "phi": 0, "D5": 0, "Ecr": 0, "S12": 0, "Sccr": 0, "Yt": 0, "fc": 0}, "behavior": "elastic", "type": "orthotropic", "dimension": 2}], "analysis": {"quasi_static": {"max_iteration": 1000, "tolerance": 1e-07, "precondition": 1e-10}, "load_segments": [{"name": "ls1", "type": "static", "num_save": 1, "ratio_segment": 1, "num_segment": 1}], "iteration_damage": "false", "max_bond_breakage": 6, "thickness": 1, "zero_energy": {"type": "bond-associated", "bond_associated_family": 1.5}, "name": "analysis1", "type": "Stress Analysis", "dimension": 2, "inclusion_damage": "true", "solver": "quasi-static", "time_increment": 1e-08}, {"plotSetting": {"markerSize": "5", "markerOpacity": "1", "cameraEye": {"x": "1.8", "y": "1.8", "z": "1.8"}, "edgeColor": "middlegray", "edgeWidth": "0", "markerColor": "mutedblue", "colorscale": "RdBu", "materialColor": "blue", "lineColor": "black", "damageColor": "red", "aspectRatio": {"x": "1.8", "y": "1.8", "z": "1.8"}, "lineWidth": "1"}, {"owner": "pmasscasestudies", "models": [{"output_zones": [], "random_solids": [], "solids": [{"name": "solid1", "geometry": {"name": "geo1", "length": [100, 100], "type": "rectangle", "yaw": 0, "center": [50, 50]}, "material": {"name": "mat1", "roll": 0, "pitch": 0, "type": "constant", "yaw": 45}, "dimension": 2, "grid": {"grid_type": "quadrilateral2D", "horizon_type": "circle", "hr": 1.6, "dx": 0.5, "dy": 0.5, "yaw": 0}}, {"failure_zones": [], "name": "model1", "boundary_zones": [{"name": "boundary1", "geometry": {"name": "geo1", "length": [100, 1.5], "type": "rectangle", "yaw": 0, "center": [50, 0]}, "dimension": 2, "properties": {"type": "displacement", "value": 0, "direction": "Y"}}, {"name": "boundary2", "geometry": {"name": "geo1", "length": [1.5, 1.5], "type": "rectangle", "yaw": 0, "center": [0, 0]}, "dimension": 2, "properties": {"type": "displacement", "value": 0, "direction": "X"}}, {"name": "boundary3", "geometry": {"name": "geo1", "length": [100, 1.5], "type": "rectangle", "yaw": 0, "center": [50, 100]}, "dimension": 2, "properties": {"type": "displacement", "value": 1, "direction": "Y"}}, {"cracks": [], "laminated_solids": [], "dimension": 2, "voids": [], "inclusions": []}], "project_id": "cad26b50-a653-42e9-a36e-e237186c971b", "description": "2D, Stress Analysis, Orthotropic, Quasi-Static", "type": "type1"}
```

Undeformed Grid

Number of Points: 40000

min-x: 0.25

max-x: 99.75

min-y: 0.25

max-y: 99.75



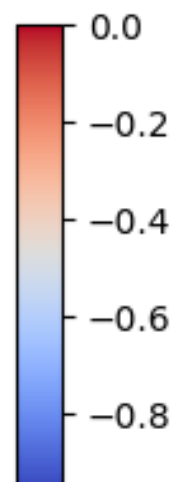
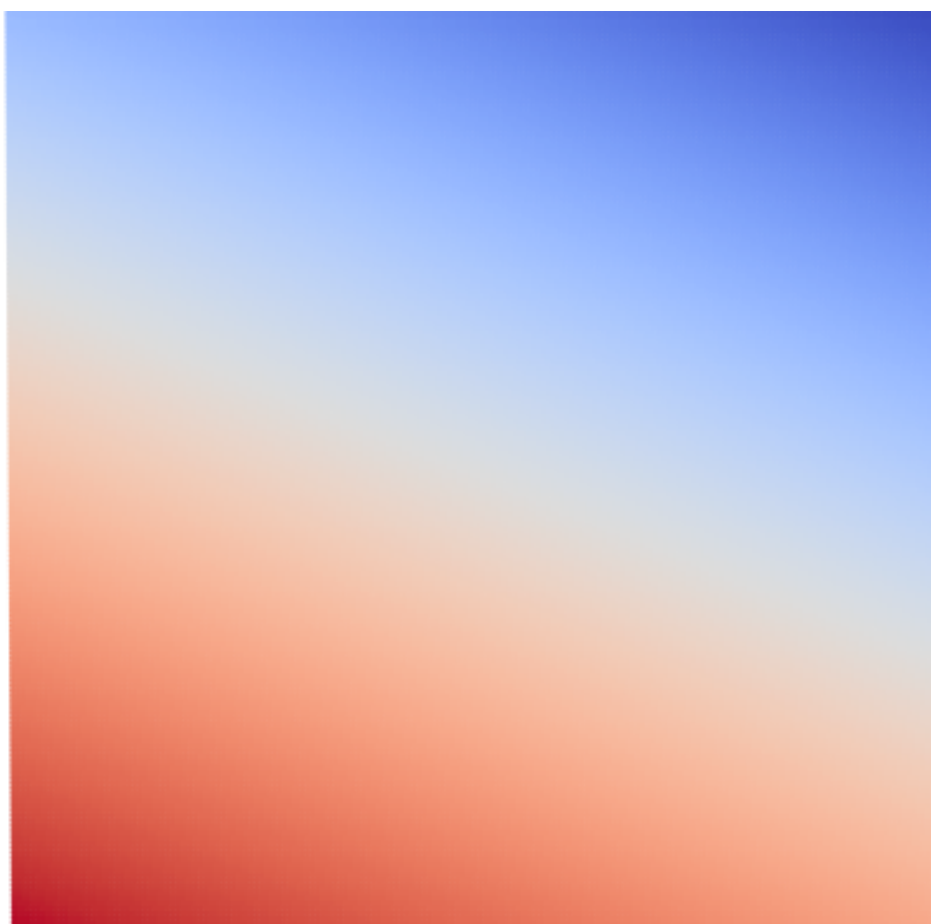
Run Name: run0

Solution Output: out_0_0

Field: u-x

min-u-x: -0.947786

max-u-x: 0.0



Run Name: run0

Solution Output: out_0_0

Field: u-y

min-u-y: 0.0

max-u-y: 1.0



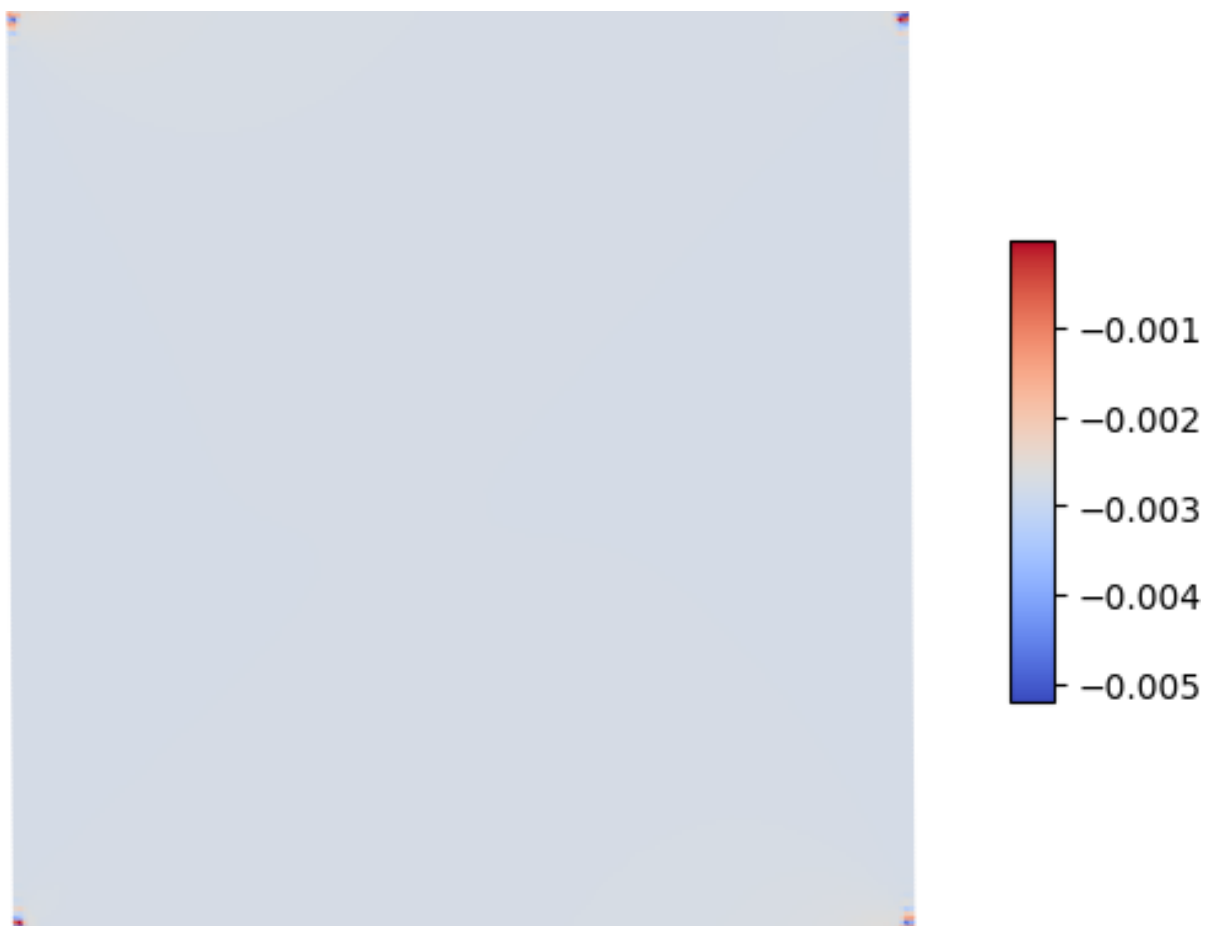
Run Name: run0

Solution Output: out_0_0

Field: e-x

min-e-x: -0.00517896

max-e-x: -2.88297e-05



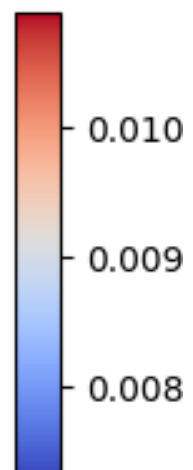
Run Name: run0

Solution Output: out_0_0

Field: e-y

min-e-y: 0.00733196

max-e-y: 0.0108945



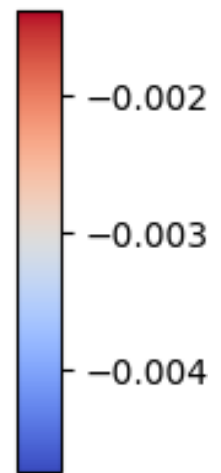
Run Name: run0

Solution Output: out_0_0

Field: e-xy

min-e-xy: -0.00473716

max-e-xy: -0.00138386



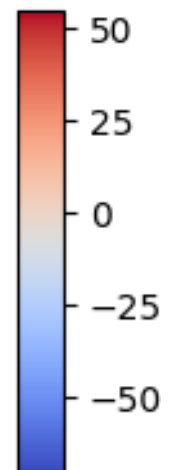
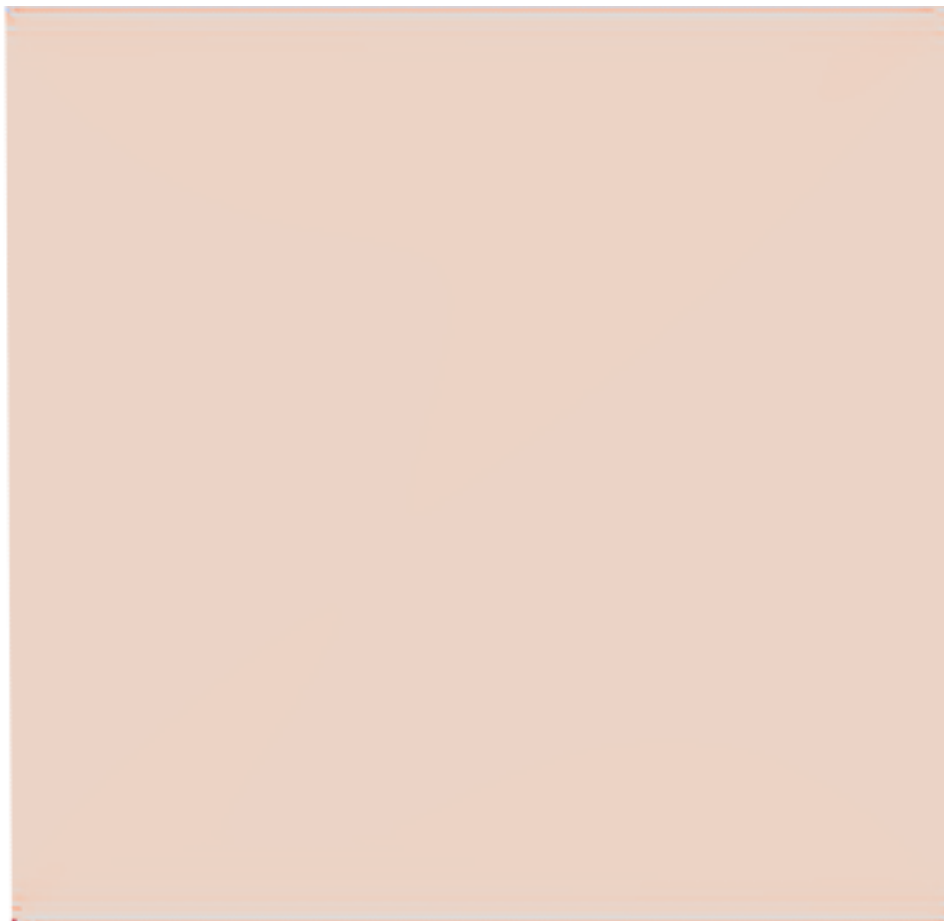
Run Name: run0

Solution Output: out_0_0

Field: s-x

min-s-x: -69.8469

max-s-x: 54.5262



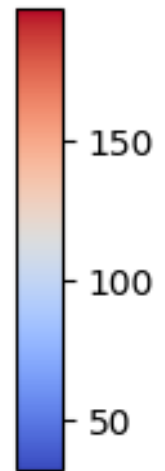
Run Name: run0

Solution Output: out_0_0

Field: s-y

min-s-y: 32.4924

max-s-y: 197.529



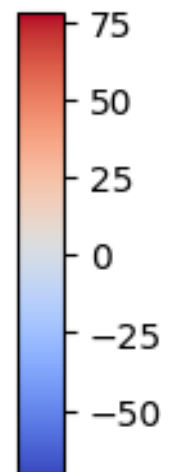
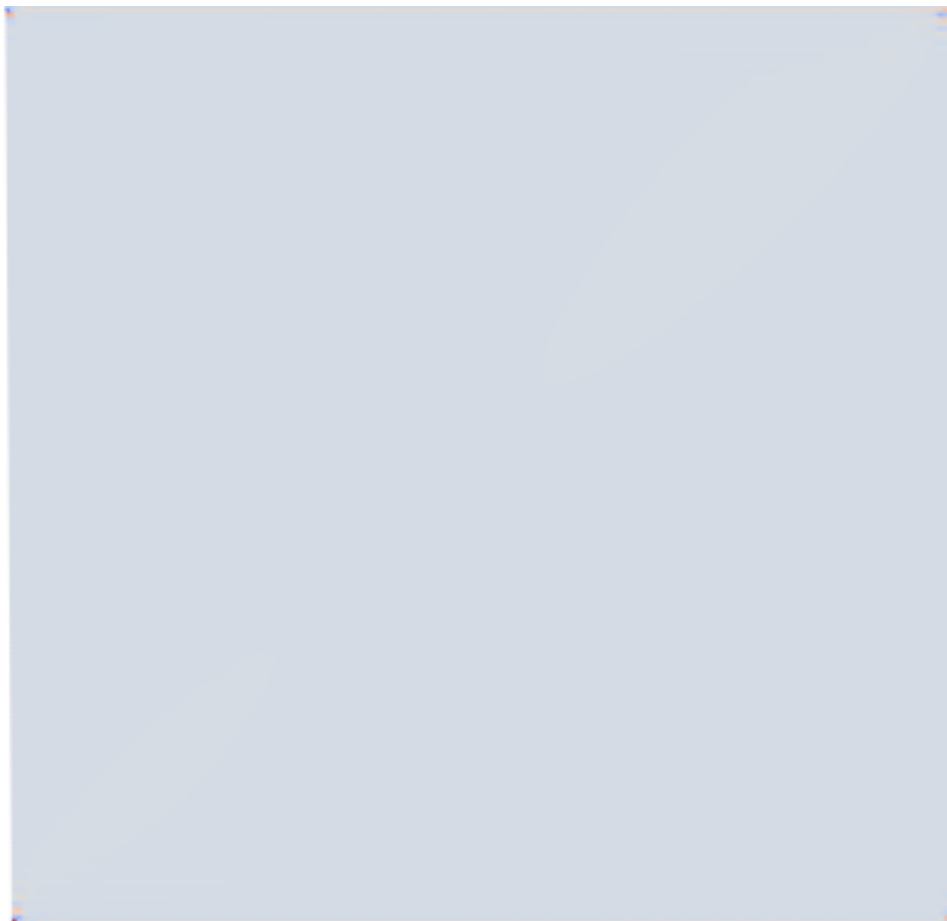
Run Name: run0

Solution Output: out_0_0

Field: s-xy

min-s-xy: -70.105

max-s-xy: 78.3442



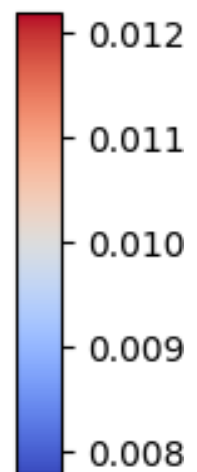
Run Name: run0

Solution Output: out_0_0

Field: e-p1

min-e-p1: 0.0077934

max-e-p1: 0.0121985



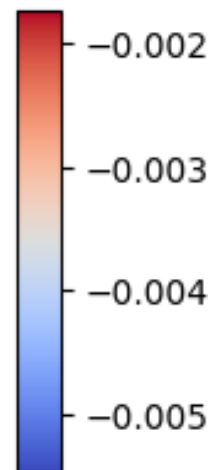
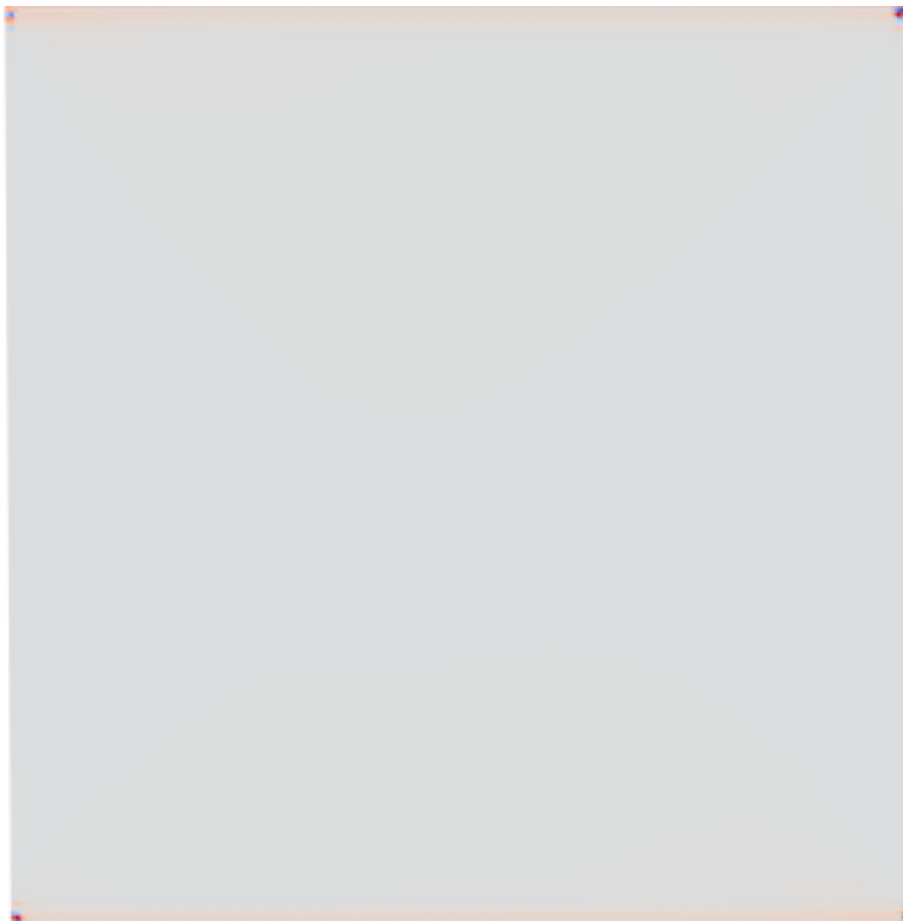
Run Name: run0

Solution Output: out_0_0

Field: e-p2

min-e-p2: -0.0054536

max-e-p2: -0.00173621



Run Name: run0

Solution Output: out_0_0

Field: s-p1

min-s-p1: 68.1159

max-s-p1: 232.095



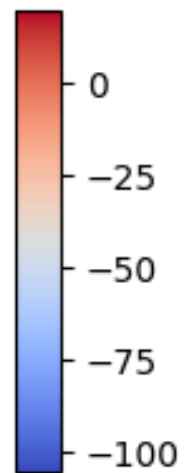
Run Name: run0

Solution Output: out_0_0

Field: s-p2

min-s-p2: -105.47

max-s-p2: 19.9604



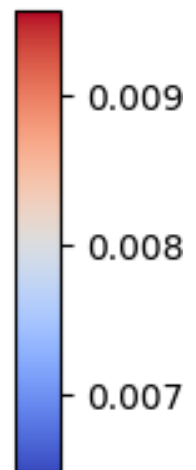
Run Name: run0

Solution Output: out_0_0

Field: e-eq

min-e-eq: 0.00648134

max-e-eq: 0.00957712



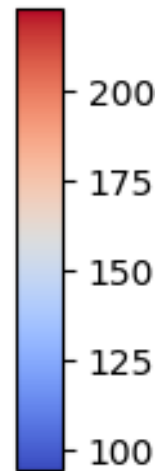
Run Name: run0

Solution Output: out_0_0

Field: s-eq

min-s-eq: 94.3776

max-s-eq: 222.787



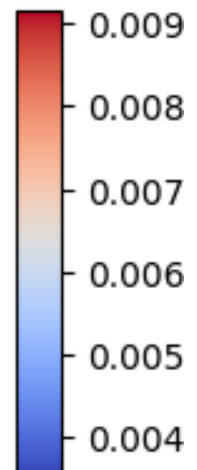
Run Name: run0

Solution Output: out_0_0

Field: e-vol

min-e-vol: 0.00360094

max-e-vol: 0.00915691



Run Name: run0

Solution Output: out_0_0

Field: damage-ini

min-damage-ini: 0.0

max-damage-ini: 0.0



Run Name: run0

Solution Output: out_0_0

Field: damage

min-damage: 0.0

max-damage: 0.0

