20. A transition edge sensor comprising a structure of two or more metal layers on a substrate and electrical leads on outer sides of said structure, at least one of those layers being a normal metal layer and at least one of those layers being a superconducting metal layer, the at least one normal metal layer and superconducting metal layer overlaying each other, wherein at least one outer side, other than the ones containing the electrical leads, of the at least one normal metal layer and the at least one superconducting metal layer and their corresponding outer interface are covered by a bank of normal metal.

21. The transition edge sensor of claim **20**, wherein the at least one bank results in normal-metal boundary conditions on the outer side where it is provided.

22. The transition edge sensor of claim **20**, which has a superconducting metal layer on the substrate and a normal metal layer on the superconducting layer.

23. The transition edge sensor of claim **22**, wherein the at least one bank is of the same normal metal as the normal metal layer.

24. The transition edge sensor of claim **23**, wherein the at least one bank and the normal metal layer are integrally formed in a single deposition step.

25. The transition edge sensor of claim **23**, wherein the superconducting metal layer is elemental Mo; and, the normal metal layer is of copper, gold or silver.

26. The transition edge sensor of claim **22**, wherein the normal metal layer has a smaller surface area than the superconducting metal layer and is contained within the periphery of the superconducting metal layer.

27. The transition edge sensor of claim **20**, which has a superconducting metal layer on the substrate, a normal metal layer on the superconducting layer and a second superconducting layer on the normal metal layer.

28. The transition edge sensor of claim **20**, wherein at least one superconducting metal layer is of elemental Mo, Ti, Al, Zr, W, Ir, Ta or Hf; at least one normal metal layer is of gold, silver, copper, palladium, platinum, a gold/copper alloy or a palladium/gold alloy; and the at least one bank is of gold, silver, copper, palladium, platinum, a gold/copper alloy or a palladium/gold alloy.

29. The transition edge sensor of claim **20**, wherein at least one superconducting metal layer is of elemental Mo or Ti; and, at least one normal metal layer is of copper, gold or silver.

30. The transition edge sensor of claim **20**, wherein at least one superconducting metal layer has a thickness of 0.05 to 10 μm; and, at least one normal metal layer has a thickness of 0.05 to 10 μm.

31. The transition edge sensor of claim **20**, wherein the superconducting transition temperature, T_c, of the sensor is from 50 to 500 mK.

32. The transition edge sensor of claim **20**, wherein the width of the transition edge of the sensor is less than 0.1 mK.

33. A device comprising a precision thermometer where the thermometer is comprised of a transition edge sensor according to claim **20**.

34. A particle or energy detector which comprises a transition edge sensor according to claim **20** and, in connection therewith, an absorber for absorbing the particle or energy, which absorber may be the transition edge sensor itself or some other component.

35. An x-ray microcalorimeter which comprises a transition edge sensor according to claim **20** and, in connection therewith, an absorber for absorbing x-rays, which absorber may be the transition edge sensor itself or some other component.

36. An x-ray microcalorimeter of claim **35**, wherein the microcalorimeter is a spectrometer.

37. An x-ray microcalorimeter of claim **35**, wherein the superconducting transition temperature, T_c, of the transition edge sensor is from 50 to 150 mK.

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