



Figure 1.5: Contributions to the radar cross section of a fighter jet [1], [9]

Large scattering contributions (mainly due to reflection) are:

- 1) Air intake cavity (only for head-on illumination),
  - 2) Antenna behind radome, if transparent to illuminating radar,
  - 3) Canopy and cockpit cavity,
  - 4) Dihedral  $90^\circ$  corner reflector at tail junction (only for side illumination),
  - 5) Exhaust cavity (when viewed from rear (e.g. like in a missile attack)),
  - 6) Drop tank,
- Not shown: Glint from flat, slab sided fuselage (from normal to its side).

Scattering contributions that could be large, but not necessarily are:

- 7) Leading wing edge, especially if unswept,
  - 8) Glint from vertical and horizontal tails in isolation,
  - 9) Seeker,
- Not shown: Glint from propeller and rotor blades.

Smaller, but nevertheless significant scattering contributions are:

- 10) Weapon hard point,
  - 11) Gun muzzle and other local surface protuberances,
  - 12) Creeping wave along the fuselage,
  - 13) Axial surface wave along coated missile,
  - 14) Surface wave along trailing wing edge (only with side illumination) [10],
  - 15) Scattering at trailing wing edge and control surface gaps,
- Not shown: Scattering at edges of undercarriage fairing,  
 Not shown: Local air intakes for cooling or air conditioning.

Contributions 12 to 15 can be accompanied by surface wave propagation effects if the surfaces are coated.